```
Thr Thr Arg Glu Gln Val Pro Val Val Cys Leu Asp Leu Tyr Pro Thr
    450                 455                 460

Thr Asp Tyr Thr Val Asn Val Thr Leu Leu Arg Ser Pro Lys Arg His
465                 470                 475                 480

Ser Val Gln Ile Thr Ile Ala Thr Pro Pro Ala Val Lys Gln Thr Ile
                485                 490                 495

Ser Asn Ile Ser Gly Phe Asn Glu Thr Cys Leu Arg Trp Arg Ser Ile
            500                 505                 510

Lys Thr Ala Asp Met Glu Glu Met Tyr Leu Phe His Ile Trp Gly Gln
        515                 520                 525

Arg Trp Tyr Gln Lys Glu Phe Ala Gln Glu Met Thr Phe Asn Ile Ser
    530                 535                 540

Ser Ser Ser Arg Asp Pro Glu Val Cys Leu Asp Leu Arg Pro Gly Thr
545                 550                 555                 560

Asn Tyr Asn Val Ser Leu Arg Ala Leu Ser Ser Glu Leu Pro Val Val
                565                 570                 575

Ile Ser Leu Thr Thr Gln Ile Thr Glu Pro Pro Leu Pro Glu Val Glu
            580                 585                 590

Phe Phe Thr Val His Arg Gly Pro Leu Pro Arg Leu Arg Leu Arg Lys
        595                 600                 605

Ala Lys Glu Lys Asn Gly Pro Ile Ser Ser Tyr Gln Val Leu Val Leu
    610                 615                 620

Pro Leu Ala Leu Gln Ser Thr Phe Ser Cys Asp Ser Glu Gly Ala Ser
625                 630                 635                 640

Ser Phe Phe Ser Asn Ala Ser Asp Ala Asp Gly Tyr Val Ala Ala Glu
                645                 650                 655

Leu Leu Ala Lys Asp Val Pro Asp Asp Ala Met Glu Ile Pro Ile Gly
            660                 665                 670

Asp Arg Leu Tyr Tyr Gly Glu Tyr Tyr Asn Ala Pro Leu Lys Arg Gly
        675                 680                 685

Ser Asp Tyr Cys Ile Ile Leu Arg Ile Thr Ser Glu Trp Asn Lys Val
    690                 695                 700

Arg Arg His Ser Cys Ala Val Trp Ala Gln Val Lys Asp Ser Ser Leu
705                 710                 715                 720

Met Leu Leu Gln Met Ala Gly Val Gly Leu Gly Ser Leu Ala Val Val
                725                 730                 735

Ile Ile Leu Thr Phe Leu Ser Phe Ser Ala Val
            740                 745
```

```
Cys Glu Val Ser Gly Leu Cys Arg His Gly Gly Arg Cys Val Asn Thr
    130                 135                 140

His Gly Ser Phe Glu Cys Tyr Cys Met Asp Gly Tyr Leu Pro Arg Asn
145                 150                 155                 160

Gly Pro Glu Pro Phe His Pro Thr Thr Asp Ala Thr Ser Cys Thr Glu
                165                 170                 175

Ile Asp Cys Gly Thr Pro Pro Glu Val Pro Asp Gly Tyr Ile Ile Gly
            180                 185                 190

Asn Tyr Thr Ser Ser Leu Gly Ser Gln Val Arg Tyr Ala Cys Arg Glu
        195                 200                 205

Gly Phe Phe Ser Val Pro Glu Asp Thr Val Ser Ser Cys Thr Gly Leu
    210                 215                 220

Gly Thr Trp Glu Ser Pro Lys Leu His Cys Gln Glu Ile Asn Cys Gly
225                 230                 235                 240

Asn Pro Pro Glu Met Arg His Ala Ile Leu Val Gly Asn His Ser Ser
                245                 250                 255

Arg Leu Gly Gly Val Ala Arg Tyr Val Cys Gln Glu Gly Phe Glu Ser
            260                 265                 270

Pro Gly Gly Lys Ile Thr Ser Val Cys Thr Glu Lys Gly Thr Trp Arg
        275                 280                 285

Glu Ser Thr Leu Thr Cys Thr Glu Ile Leu Thr Lys Ile Asn Asp Val
    290                 295                 300

Ser Leu Phe Asn Asp Thr Cys Val Arg Trp Gln Ile Asn Ser Arg Arg
305                 310                 315                 320

Ile Asn Pro Lys Ile Ser Tyr Val Ile Ser Ile Lys Gly Gln Arg Leu
                325                 330                 335

Asp Pro Met Glu Ser Val Arg Glu Glu Thr Val Asn Leu Thr Thr Asp
            340                 345                 350

Ser Arg Thr Pro Glu Val Cys Leu Ala Leu Tyr Pro Gly Thr Asn Tyr
        355                 360                 365

Thr Val Asn Ile Ser Thr Ala Pro Pro Arg Arg Ser Met Pro Ala Val
    370                 375                 380

Ile Gly Phe Gln Thr Ala Glu Val Asp Leu Leu Glu Asp Asp Gly Ser
385                 390                 395                 400

Phe Asn Ile Ser Ile Phe Asn Glu Thr Cys Leu Lys Leu Asn Arg Arg
                405                 410                 415

Ser Arg Lys Val Gly Ser Glu His Met Tyr Gln Phe Thr Val Leu Gly
            420                 425                 430

Gln Arg Trp Tyr Leu Ala Asn Phe Ser His Ala Thr Ser Phe Asn Phe
        435                 440                 445
```

```
<210> 772
<211> 10
<212> PRT
<213> Homo sapiens

<400> 772
Pro Phe Pro Ala Gly Pro His Ser Trp Ile
 1               5                   10


<210> 773
<211> 35
<212> PRT
<213> Homo sapiens

<400> 773
Met Gly Arg Gly Pro Trp Asp Ala Gly Pro Ser Arg Arg Leu Leu Pro
 1               5                   10                  15

Leu Leu Leu Leu Leu Gly Leu Ala Arg Gly Ala Ala Glu Arg Arg Ala
             20                  25                  30

Pro Thr Val
         35


<210> 774
<211> 747
<212> PRT
<213> Homo sapiens

<400> 774
Met Gly Arg Gly Pro Trp Asp Ala Gly Pro Ser Arg Arg Leu Leu Pro
 1               5                   10                  15

Leu Leu Leu Leu Leu Gly Leu Ala Arg Gly Ala Ala Gly Ala Pro Gly
             20                  25                  30

Pro Asp Gly Leu Asp Val Cys Ala Thr Cys His Glu His Ala Thr Cys
         35                  40                  45

Gln Gln Arg Glu Gly Lys Lys Ile Cys Ile Cys Asn Tyr Gly Phe Val
     50                  55                  60

Gly Asn Gly Arg Thr Gln Cys Val Asp Lys Asn Glu Cys Gln Phe Gly
 65                  70                  75                  80

Ala Thr Leu Val Cys Gly Asn His Thr Ser Cys His Asn Thr Pro Gly
                 85                  90                  95

Gly Phe Tyr Cys Ile Cys Leu Glu Gly Tyr Arg Ala Thr Asn Asn Asn
            100                 105                 110

Lys Thr Phe Ile Pro Asn Asp Gly Thr Phe Cys Thr Asp Ile Asp Glu
        115                 120                 125
        115                 120                 125

Glu Arg Lys Ala Gly Pro Cys Glu Gln Ala Gly Ser Pro Cys Arg Asn
    130                 135                 140

Gly Gly Gln Cys Gln Asp Asp Gln Gly Phe Ala Leu Asn Phe Thr Cys
145                 150                 155                 160

Arg Cys Leu Val Gly Phe Val Gly Ala Arg Cys Glu Val Asn Val Asp
                165                 170                 175

Asp Cys Leu Met Arg Pro Cys Ala Asn Gly Ala Thr Cys Leu Asp Gly
            180                 185                 190

Ile Asn Arg Phe Ser Cys Leu Cys Pro Glu Gly Phe Ala Gly Arg Phe
        195                 200                 205

Cys Thr Ile Asn Leu Asp Asp Cys Ala Ser Arg Pro Cys Gln Arg Gly
    210                 215                 220

Ala Arg Cys Arg Asp Arg Val His Asp Phe Asp Cys Leu Cys Pro Ser
225                 230                 235                 240

Gly Tyr Gly Gly Lys Thr Cys Glu Leu Val Leu Pro Val Pro Asp Pro
                245                 250                 255

Pro Thr Thr Val Asp Thr Pro Leu Gly Pro Thr Ser Ala Val Val Val
            260                 265                 270

Pro Ala Thr Gly Pro Ala Pro His Ser Ala Gly Ala Gly Leu Leu Arg
        275                 280                 285

Ile Ser Val Lys Glu Val Val Arg Arg Gln Glu Ala Gly Leu Gly Glu
    290                 295                 300

Pro Ser Leu Val Ala Leu Val Val Phe Gly Ala Leu Thr Ala Ala Leu
305                 310                 315                 320

Val Leu Ala Thr Val Leu Leu Thr Leu Arg Ala Trp Arg Arg Gly Val
                325                 330                 335

Cys Pro Pro Gly Pro Cys Cys Tyr Pro Ala Pro His Tyr Ala Pro Ala
            340                 345                 350

Cys Gln Asp Gln Glu Cys Gln Val Ser Met Leu Pro Ala Gly Leu Pro
        355                 360                 365

Leu Pro Arg Asp Leu Pro Pro Glu Pro Gly Lys Thr Thr Ala Leu
    370                 375                 380


<210> 771
<211> 10
<212> PRT
<213> Homo sapiens

<400> 771
Pro Gln Thr Ala Gly Pro Gln Lys Cys Ala
 1               5                   10
```

```
<210> 768
<211> 41
<212> PRT
<213> Homo sapiens

<400> 768
Met Pro Ser Gly Cys Arg Cys Leu His Leu Val Cys Leu Leu Cys Ile
 1               5                  10                  15

Leu Gly Ala Pro Gly Gln Pro Val Arg Ala Asp Asp Cys Ser Pro Thr
            20                  25                  30

Val Thr Trp Pro Thr Ala Ala Val Asn
        35                  40



<210> 769
<211> 20
<212> PRT
<213> Homo sapiens

<400> 769
Pro Gly Leu Cys Ser Gln Leu His Val Pro Leu Leu Gly Gly Leu Cys
 1               5                  10                  15

Gly Cys Pro Leu
            20



<210> 770
<211> 383
<212> PRT
<213> Homo sapiens

<400> 770
Met Pro Ser Gly Cys Arg Cys Leu His Leu Val Cys Leu Leu Cys Ile
 1               5                  10                  15

Leu Gly Ala Pro Gly Gln Pro Val Arg Ala Asp Asp Cys Ser Ser His
            20                  25                  30

Cys Asp Leu Ala His Gly Cys Cys Ala Pro Asp Gly Ser Cys Arg Cys
        35                  40                  45

Asp Pro Gly Trp Glu Gly Leu His Cys Glu Arg Cys Val Arg Met Pro
    50                  55                  60

Gly Cys Gln His Gly Thr Cys His Gln Pro Trp Gln Cys Ile Cys His
65                  70                  75                  80

Ser Gly Trp Ala Gly Lys Phe Cys Asp Lys Asp Glu His Ile Cys Thr
                85                  90                  95

Thr Gln Ser Pro Cys Gln Asn Gly Gly Gln Cys Met Tyr Asp Gly Gly
            100                 105                 110

Gly Glu Tyr His Cys Val Cys Leu Pro Gly Phe His Gly Arg Asp Cys
```

```
<400> 765
Met Val Tyr Cys Val Val Ser Pro Arg Arg Ala Thr Leu Phe Cys Val
 1               5                   10                  15

Leu Leu Leu Gly Thr Arg Cys Glu Ile Ile Ser Val Arg Ser Ser Phe
             20                  25                  30

Gly Glu Tyr Asp Lys Ile Asn Ser Ile Leu Lys Gly Leu Leu Lys Ile
         35                  40                  45

Pro Phe Asn Glu Phe
     50


<210> 766
<211> 95
<212> PRT
<213> Homo sapiens

<400> 766
Pro Pro Arg Thr Arg Leu Phe Leu Val Ile Leu Phe Cys Cys Phe Arg
 1               5                   10                  15

Arg Asn Asp Thr Ser Phe Cys Phe Phe Glu Glu Lys Val Phe His Val
             20                  25                  30

Thr Val Ala Arg Thr Asn Thr Lys Arg Ser Arg Leu Gln Met Leu Gln
         35                  40                  45

Ala Cys Ala Val Val Cys Val Cys Val Cys Val Cys Val Cys Val Cys
     50                  55                  60

Thr Tyr Ile Tyr Gly Lys His Ile Tyr Cys Cys Ala Ala Arg Gly Lys
 65                  70                  75                  80

Pro Ala Lys Lys Cys Val Cys Leu Tyr Glu Met Phe Glu Lys Arg
                 85                  90                  95


<210> 767
<211> 53
<212> PRT
<213> Homo sapiens

<400> 767
Met Val Tyr Cys Val Val Ser Pro Arg Arg Ala Thr Leu Phe Cys Val
 1               5                   10                  15

Leu Leu Leu Gly Thr Arg Cys Glu Ile Ile Ser Val Arg Ser Ser Phe
             20                  25                  30

Gly Glu Tyr Asp Lys Ile Asn Ser Ile Leu Lys Gly Leu Leu Lys Ile
         35                  40                  45

Pro Phe Asn Glu Phe
     50
```

```
Val Thr Ser Thr Leu Arg Ile Asn Thr Thr Thr Asn Glu Ile Phe Tyr
        195                 200                 205

Cys Thr Phe Arg Arg Leu Asp Pro Glu Glu Asn His Thr Ala Glu Leu
    210                 215                 220

Val Ile Pro Glu Leu Pro Leu Ala His Pro Pro Asn Glu Arg Thr His
225                 230                 235                 240

Leu Val Ile Leu Gly Ala Ile Leu Leu Cys Leu Gly Val Ala Leu Thr
                245                 250                 255

Phe Ile Phe Arg Leu Arg Lys Gly Arg Met Met Asp Val Lys Lys Cys
            260                 265                 270

Gly Ile Gln Asp Thr Asn Ser Lys Lys Gln Ser Asp Thr His Leu Glu
        275                 280                 285

Glu Thr
    290



<210> 764
<211> 91
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (40)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 764
Ser Val Ser Lys Lys Lys Lys Lys Lys Lys Val Phe Cys Ile Leu Tyr
  1               5                  10                  15

Lys Leu Val Val Val Gly Ser Arg Gly Leu Ser Thr Asp Asp Leu Met
             20                  25                  30

Arg Ser Val Ser Arg Phe Ala Xaa Ser Gln Thr Phe Val Leu Leu Asn
         35                  40                  45

Ser Ser Ser Phe Phe Ser Phe Leu Glu Thr Glu Ser Ser Ser Val Thr
     50                  55                  60

Arg Leu Glu Cys Ser Gly Thr Ile Lys Ala Tyr Cys Ser Leu Tyr Leu
 65                  70                  75                  80

Pro Gly Ser Arg Asn Pro Pro Thr Leu Ala Ser
                 85                  90



<210> 765
<211> 53
<212> PRT
<213> Homo sapiens
```

```
                165                 170                 175

Gly Lys Thr Thr Thr Thr Asn Ser Lys Arg Glu Glu Lys Leu Phe Asn
            180                 185                 190

Val Thr Ser Thr Leu Arg Ile Asn Thr Thr Thr Asn Glu Ile Phe Tyr
        195                 200                 205

Cys Thr Phe Arg Arg Leu Asp Pro Glu Glu Asn His Thr Ala Glu Leu
    210                 215                 220

Val Ile Pro Gly Asn Ile Leu Asn Val Ser Ile Lys Ile Cys Leu Thr
225                 230                 235                 240

Leu Ser Pro Ser Thr
                245



<210> 763
<211> 290
<212> PRT
<213> Homo sapiens

<400> 763
Met Arg Ile Phe Ala Val Phe Ile Phe Met Thr Tyr Trp His Leu Leu
  1               5                  10                  15

Asn Ala Phe Thr Val Thr Val Pro Lys Asp Leu Tyr Val Val Glu Tyr
             20                  25                  30

Gly Ser Asn Met Thr Ile Glu Cys Lys Phe Pro Val Glu Lys Gln Leu
         35                  40                  45

Asp Leu Ala Ala Leu Ile Val Tyr Trp Glu Met Glu Asp Lys Asn Ile
     50                  55                  60

Ile Gln Phe Val His Gly Glu Glu Asp Leu Lys Val Gln His Ser Ser
 65                  70                  75                  80

Tyr Arg Gln Arg Ala Arg Leu Leu Lys Asp Gln Leu Ser Leu Gly Asn
                 85                  90                  95

Ala Ala Leu Gln Ile Thr Asp Val Lys Leu Gln Asp Ala Gly Val Tyr
            100                 105                 110

Arg Cys Met Ile Ser Tyr Gly Gly Ala Asp Tyr Lys Arg Ile Thr Val
        115                 120                 125

Lys Val Asn Ala Pro Tyr Asn Lys Ile Asn Gln Arg Ile Leu Val Val
    130                 135                 140

Asp Pro Val Thr Ser Glu His Glu Leu Thr Cys Gln Ala Glu Gly Tyr
145                 150                 155                 160

Pro Lys Ala Glu Val Ile Trp Thr Ser Ser Asp His Gln Val Leu Ser
                165                 170                 175

Gly Lys Thr Thr Thr Thr Asn Ser Lys Arg Glu Glu Lys Leu Phe Asn
            180                 185                 190
```

1 5 10

<210> 761
<211> 31
<212> PRT
<213> Homo sapiens

<400> 761
Phe Ala Ile Phe Ile Tyr Phe Ser Val Ser Tyr Ile Ala Asp Gly Asn
1 5 10 15

Glu Phe Glu Val Pro Arg Ala Glu Asp Pro Cys Leu Leu Cys Phe
20 25 30

<210> 762
<211> 245
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (110)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 762
Met Arg Ile Phe Ala Val Phe Ile Phe Met Thr Tyr Trp His Leu Leu
1 5 10 15

Asn Ala Phe Thr Val Thr Val Pro Lys Asp Leu Tyr Val Val Glu Tyr
20 25 30

Gly Ser Asn Met Thr Ile Glu Cys Lys Phe Pro Val Glu Lys Gln Leu
35 40 45

Asp Leu Ala Ala Leu Ile Val Tyr Trp Glu Met Glu Asp Lys Asn Ile
50 55 60

Ile Gln Phe Val His Gly Glu Glu Asp Leu Lys Val Gln His Ser Ser
65 70 75 80

Tyr Arg Gln Arg Ala Arg Leu Leu Lys Asp Gln Leu Ser Leu Gly Asn
85 90 95

Ala Ala Leu Gln Ile Thr Asp Val Lys Leu Gln Asp Ala Xaa Val Tyr
100 105 110

Arg Cys Met Ile Ser Tyr Gly Gly Ala Asp Tyr Lys Arg Ile Thr Val
115 120 125

Lys Val Asn Ala Pro Tyr Asn Lys Ile Asn Gln Arg Ile Leu Val Val
130 135 140

Asp Pro Val Thr Ser Glu His Glu Leu Thr Cys Gln Ala Glu Gly Tyr
145 150 155 160

Pro Lys Ala Glu Val Ile Trp Thr Ser Ser Asp His Gln Val Leu Ser

```
His Lys Tyr Gly Pro Glu Asp Lys Glu Asn Met Ser Arg Val Leu Lys
        195                 200                 205

Lys Ile Asp Asp Leu Ile Gly Asp Leu Val Gln Arg Leu Lys Met Leu
    210                 215                 220

Gly Leu Trp Glu Asn Leu Asn Val Ile Ile Thr Ser Asp His Gly Met
225                 230                 235                 240

Thr Gln Cys Ser Gln Asp Arg Leu Ile Asn Leu Asp Ser Cys Ile Asp
                245                 250                 255

His Ser Tyr Tyr Thr Leu Ile Asp Leu Ser Pro Val Ala Ala Ile Leu
            260                 265                 270

Pro Lys Ile Asn Arg Thr Glu Val Tyr Asn Lys Leu Lys Asn Cys Ser
        275                 280                 285

Pro His Met Asn Val Tyr Leu Lys Glu Asp Ile Pro Asn Arg Phe Tyr
    290                 295                 300

Tyr Gln His Asn Asp Arg Ile Gln Pro Ile Ile Leu Val Ala Asp Glu
305                 310                 315                 320

Gly Trp Thr Ile Val Leu Asn Glu Ser Ser Gln Lys Leu Gly Asp His
                325                 330                 335

Gly Tyr Asp Asn Ser Leu Pro Ser Met His Pro Phe Leu Ala Ala His
            340                 345                 350

Gly Pro Ala Phe His Lys Gly Tyr Lys His Ser Thr Ile Asn Ile Val
        355                 360                 365

Asp Ile Tyr Pro Met Met Cys His Ile Leu Gly Leu Lys Pro His Pro
    370                 375                 380

Asn Asn Gly Thr Phe Gly His Thr Lys Cys Leu Leu Val Asp Gln Trp
385                 390                 395                 400

Cys Ile Asn Leu Pro Glu Ala Ile Ala Ile Val Ile Gly Ser Leu Leu
                405                 410                 415

Val Leu Thr Met Leu Thr Cys Leu Ile Ile Ile Met Gln Asn Arg Leu
            420                 425                 430

Ser Val Pro Arg Pro Phe Ser Arg Leu Gln Leu Gln Glu Asp Asp Asp
        435                 440                 445

Asp Pro Leu Ile Gly
    450


<210> 760
<211> 11
<212> PRT
<213> Homo sapiens

<400> 760
Trp His Ile Leu Gln Met Lys Gly Leu Thr Trp
```

85 90 95

Xaa Lys Ser Ile Cys
100

<210> 758
<211> 12
<212> PRT
<213> Homo sapiens

<400> 758
Leu Leu Thr Ile Leu Leu Trp Ser Ala Leu Ser Tyr
1 5 10

<210> 759
<211> 453
<212> PRT
<213> Homo sapiens

<400> 759
Met Lys Leu Leu Val Ile Leu Leu Phe Ser Gly Leu Ile Thr Gly Phe
1 5 10 15

Arg Ser Asp Ser Ser Ser Ser Leu Pro Pro Lys Leu Leu Leu Val Ser
20 25 30

Phe Asp Gly Phe Arg Ala Asp Tyr Leu Lys Asn Tyr Glu Phe Pro His
35 40 45

Leu Gln Asn Phe Ile Lys Glu Gly Val Leu Val Glu His Val Lys Asn
50 55 60

Val Phe Ile Thr Lys Thr Phe Pro Asn His Tyr Ser Ile Val Thr Gly
65 70 75 80

Leu Tyr Glu Glu Ser His Gly Ile Val Ala Asn Ser Met Tyr Asp Ala
85 90 95

Val Thr Lys Lys His Phe Ser Asp Ser Asn Asp Lys Asp Pro Phe Trp
100 105 110

Trp Asn Glu Ala Val Pro Ile Trp Val Thr Asn Gln Leu Gln Glu Asn
115 120 125

Arg Ser Ser Ala Ala Ala Met Trp Pro Gly Thr Asp Val Pro Ile His
130 135 140

Asp Thr Ile Ser Ser Tyr Phe Met Asn Tyr Asn Ser Ser Val Ser Phe
145 150 155 160

Glu Glu Arg Leu Asn Asn Ile Thr Met Trp Leu Asn Asn Ser Asn Pro
165 170 175

Pro Val Thr Phe Ala Thr Leu Tyr Trp Glu Glu Pro Asp Ala Ser Gly
180 185 190

35 40 45

Leu Gln Asn Phe Ile Lys Glu Gly Val Leu Val Glu His Val Lys Asn
50 55 60

Val Phe Ile Thr Lys Thr Phe Pro Asn His Tyr Ser Ile Val Thr Gly
65 70 75 80

Leu Tyr Glu Glu Ser His Gly Ile Val Ala Asn Ser Met Tyr Asp Ala
85 90 95

Val Thr Lys Lys His Phe Ser Asp Ser Asn Asp Lys Asp Pro Phe Trp
100 105 110

Trp Asn Glu Ala Val Pro Ile Trp Val Thr Asn Gln Leu Gln Glu Thr
115 120 125

Asp Gln Val Ala Ala Ala Met Trp Ala
130 135

<210> 756
<211> 6
<212> PRT
<213> Homo sapiens

<400> 756
Lys Met Met Met Ile Leu
1 5

<210> 757
<211> 101
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (97)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 757
Ser Phe Ser Phe Lys Val Val Asp Val Phe Glu Val Ser Lys Ile Val
1 5 10 15

Ala Glu Tyr Phe Ile Leu Gly Pro Cys Asn Gly Val Ser Phe Asn Asp
20 25 30

Cys Ile Ile Val Ile Gly Gly Tyr Glu Phe Gln Lys Ser Ile Leu Gly
35 40 45

Ile Gln Leu Met Ser Gly Phe Tyr Ile Gly Trp Asn Arg Lys Val Cys
50 55 60

Pro Val Ser Ile Leu Thr Leu Ser Thr Arg His Leu Pro Ile Cys Leu
65 70 75 80

Ser Leu Arg Ser Gln Asn Ile Asn Ser Asn Cys Lys Leu Ser Lys Asn

```
Gly Asn Ala Arg His Ser Leu Thr Gln Lys Cys Ile Trp Leu Val Ile
                805                 810                 815

Leu Leu Thr Thr Val Ala Ser Val Met Pro Val Val Ala Phe Arg Phe
            820                 825                 830

Leu Lys Val Asp Leu Tyr Pro Thr Leu Ser Asp Gln Ile Arg Arg Trp
        835                 840                 845

Gln Lys Ala Gln Lys Lys Ala Arg Pro Pro Ser Ser Arg Arg Pro Arg
    850                 855                 860

Thr Arg Arg Ser Ser Ser Arg Arg Ser Gly Tyr Ala Phe Ala His Gln
865                 870                 875                 880

Glu Gly Tyr Gly Glu Leu Ile Thr Ser Gly Lys Asn Met Arg Ala Lys
                885                 890                 895

Asn Pro Pro Pro Thr Ser Gly Leu Glu Lys Thr His Tyr Asn Ser Thr
            900                 905                 910

Ser Trp Ile Glu Asn Leu Cys Lys Lys Thr Thr Asp Thr Val Ser Ser
        915                 920                 925

Phe Ser Gln Asp Lys Thr Val Lys Leu
    930                 935


<210> 754
<211> 45
<212> PRT
<213> Homo sapiens

<400> 754
Ile Asn Ser Cys Asn Ile Lys Gly Leu Lys Cys Phe Tyr Ile Val Phe
 1               5                  10                  15

Gly Cys Leu Leu Leu Val Pro Ile Ser Asp Lys Leu Tyr Gly Leu Leu
            20                  25                  30

His Leu Ile Pro Phe Ile Trp Arg Val Leu Leu Pro Cys
        35                  40                  45


<210> 755
<211> 137
<212> PRT
<213> Homo sapiens

<400> 755
Met Lys Leu Leu Val Ile Leu Leu Phe Ser Gly Leu Ile Thr Gly Phe
 1               5                  10                  15

Arg Ser Asp Ser Ser Ser Ser Leu Pro Pro Lys Leu Leu Leu Val Ser
            20                  25                  30

Phe Asp Gly Phe Arg Ala Asp Tyr Leu Lys Asn Tyr Glu Phe Pro His
```

```
Lys Lys Gln Gln Leu Glu Leu Asp Ser Ile Val Glu Glu Thr Ile Thr
                485                 490                 495

Gly Asp Tyr Ala Leu Ile Ile Asn Gly His Ser Leu Ala His Ala Leu
            500                 505                 510

Glu Ser Asp Val Lys Asn Asp Leu Leu Glu Leu Ala Cys Met Cys Lys
        515                 520                 525

Thr Val Ile Cys Cys Arg Val Thr Pro Leu Gln Lys Ala Gln Val Val
    530                 535                 540

Glu Leu Val Lys Lys Tyr Arg Asn Ala Val Thr Leu Ala Ile Gly Asp
545                 550                 555                 560

Gly Ala Asn Asp Val Ser Met Ile Lys Ser Ala His Ile Gly Val Gly
                565                 570                 575

Ile Ser Gly Gln Glu Gly Leu Gln Ala Val Leu Ala Ser Asp Tyr Ser
            580                 585                 590

Phe Ala Gln Phe Arg Tyr Leu Gln Arg Leu Leu Leu Val His Gly Arg
        595                 600                 605

Trp Ser Tyr Phe Arg Met Cys Lys Phe Leu Cys Tyr Phe Phe Tyr Lys
    610                 615                 620

Asn Phe Ala Phe Thr Leu Val His Phe Trp Phe Gly Phe Phe Cys Gly
625                 630                 635                 640

Phe Ser Ala Gln Thr Val Tyr Asp Gln Trp Phe Ile Thr Leu Phe Asn
                645                 650                 655

Ile Val Tyr Thr Ser Leu Pro Val Leu Ala Met Gly Ile Phe Asp Gln
            660                 665                 670

Asp Val Ser Asp Gln Asn Ser Val Asp Cys Pro Gln Leu Tyr Lys Pro
        675                 680                 685

Gly Gln Leu Asn Leu Leu Phe Asn Lys Arg Lys Phe Phe Ile Cys Val
    690                 695                 700

Met His Gly Ile Tyr Thr Ser Leu Val Leu Phe Phe Ile Pro Tyr Gly
705                 710                 715                 720

Ala Phe Tyr Asn Val Ala Gly Glu Asp Gly Gln His Ile Ala Asp Tyr
                725                 730                 735

Gln Ser Phe Ala Val Thr Met Ala Thr Ser Leu Val Ile Val Val Ser
            740                 745                 750

Val Gln Ile Ala Leu Asp Thr Ser Tyr Trp Thr Phe Ile Asn His Val
        755                 760                 765

Phe Ile Trp Gly Ser Ile Ala Ile Tyr Phe Ser Ile Leu Phe Thr Met
    770                 775                 780

His Ser Asn Gly Ile Phe Gly Ile Phe Pro Asn Gln Phe Pro Phe Val
785                 790                 795                 800
```

```
Glu Val His Asp Asp Leu Asp Gln Lys Thr Glu Ile Thr Gln Glu Lys
                165                 170                 175

Glu Pro Val Asp Phe Ser Val Lys Ser Gln Ala Asp Arg Glu Phe Gln
            180                 185                 190

Phe Phe Asp His Asn Leu Met Glu Ser Ile Lys Met Gly Asp Pro Lys
        195                 200                 205

Val His Glu Phe Leu Arg Leu Leu Ala Leu Cys His Thr Val Met Ser
    210                 215                 220

Glu Glu Asn Ser Ala Gly Glu Leu Ile Tyr Gln Val Gln Ser Pro Asp
225                 230                 235                 240

Glu Gly Ala Leu Val Thr Ala Ala Arg Asn Phe Gly Phe Ile Phe Lys
                245                 250                 255

Ser Arg Thr Pro Glu Thr Ile Thr Ile Glu Glu Leu Gly Thr Leu Val
            260                 265                 270

Thr Tyr Gln Leu Leu Ala Phe Leu Asp Phe Asn Asn Thr Arg Lys Arg
        275                 280                 285

Met Ser Val Ile Val Arg Asn Pro Glu Gly Gln Ile Lys Leu Tyr Ser
    290                 295                 300

Lys Gly Ala Asp Thr Ile Leu Phe Glu Lys Leu His Pro Ser Asn Glu
305                 310                 315                 320

Val Leu Leu Ser Leu Thr Ser Asp His Leu Ser Glu Phe Ala Gly Glu
                325                 330                 335

Gly Leu Arg Thr Leu Ala Ile Ala Tyr Arg Asp Leu Asp Asp Lys Tyr
            340                 345                 350

Phe Lys Glu Trp His Lys Met Leu Glu Asp Ala Asn Val Ala Thr Glu
        355                 360                 365

Glu Arg Asp Glu Arg Ile Ala Gly Leu Tyr Glu Glu Ile Glu Arg Asp
    370                 375                 380

Leu Met Leu Leu Gly Ala Thr Ala Val Glu Asp Lys Leu Gln Glu Gly
385                 390                 395                 400

Val Ile Glu Thr Val Thr Ser Leu Ser Leu Ala Asn Ile Lys Ile Trp
                405                 410                 415

Val Leu Thr Gly Asp Lys Gln Glu Thr Ala Ile Asn Ile Gly Tyr Ala
            420                 425                 430

Cys Asn Met Leu Thr Asp Asp Met Asn Asp Val Phe Val Ile Ala Gly
        435                 440                 445

Asn Asn Ala Val Glu Val Arg Glu Glu Leu Arg Lys Ala Lys Gln Asn
    450                 455                 460

Leu Phe Gly Gln Asn Arg Asn Phe Ser Asn Gly His Val Val Cys Glu
465                 470                 475                 480
```

```
<400> 752
Met Asn Thr Leu Val Leu Trp Ile Phe Gly Phe Leu Ile Cys Leu Gly
 1               5                   10                  15

Ile Ile Leu Ala Ile Gly Asn Ser Ile Trp Glu Ser Gln Thr Gly Asp
             20                  25                  30

Gln Phe Arg Thr Phe Leu Phe Trp Asn Glu Gly Glu Lys Ser Ser Val
         35                  40                  45

Phe Ser Gly Phe Leu Thr Phe Trp Ser Tyr Ile Ile Ile Leu Asn Thr
     50                  55                  60

Val Val Pro Ile Ser Leu Tyr Val Ser Val Glu Val Ile Arg Leu Gly
 65                  70                  75                  80

His Ser Tyr Phe Ile Asn Trp Asp Arg Lys Met Tyr Tyr Xaa Arg Lys
                 85                  90                  95

Ala Ile Pro Ala Val Ala Arg Thr Thr Thr Leu Asn Glu
            100                 105


<210> 753
<211> 937
<212> PRT
<213> Homo sapiens

<400> 753
Met Gln Asn Ser Gly Lys Thr Lys Phe Lys Arg Thr Ser Ile Asp Arg
 1               5                   10                  15

Leu Met Asn Thr Leu Val Leu Trp Ile Phe Gly Phe Leu Ile Cys Leu
             20                  25                  30

Gly Ile Ile Leu Ala Ile Gly Asn Ser Ile Trp Glu Ser Gln Thr Gly
         35                  40                  45

Asp Gln Phe Arg Thr Phe Leu Phe Trp Asn Glu Gly Glu Lys Ser Ser
     50                  55                  60

Val Phe Ser Gly Phe Leu Thr Phe Trp Ser Tyr Ile Ile Ile Leu Asn
 65                  70                  75                  80

Thr Val Val Pro Ile Ser Leu Tyr Val Ser Val Glu Val Ile Arg Leu
                 85                  90                  95

Gly His Ser Tyr Phe Ile Asn Trp Asp Arg Lys Met Tyr Tyr Ser Arg
            100                 105                 110

Lys Ala Ile Pro Ala Val Ala Arg Thr Thr Thr Leu Asn Glu Glu Leu
        115                 120                 125

Gly Gln Ile Glu Tyr Ile Phe Ser Asp Lys Thr Gly Thr Leu Thr Gln
    130                 135                 140

Asn Ile Met Thr Phe Lys Arg Cys Ser Ile Asn Gly Arg Ile Tyr Gly
145                 150                 155                 160
```

```
        35                  40                  45

Phe Ala Arg Phe Glu Asn Phe Gln
    50                  55



<210> 749
<211> 11
<212> PRT
<213> Homo sapiens

<400> 749
Phe Leu Val Cys Leu Leu Leu Gly Pro Arg Ser
 1               5                  10



<210> 750
<211> 6
<212> PRT
<213> Homo sapiens

<400> 750
Thr Val Ala Ile Tyr Asp
 1               5



<210> 751
<211> 46
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (45)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 751
Ile Asn His Val Phe Ile Trp Gly Ser Ile Ala Ile Tyr Phe Ser Ile
 1               5                  10                  15

Leu Phe Thr Met His Ser Asn Gly Ile Phe Gly Ile Phe Pro Asn Gln
            20                  25                  30

Phe Pro Phe Val Gly Asn Ala Arg His Ser Leu Thr Xaa Lys
        35                  40                  45



<210> 752
<211> 109
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (94)
<223> Xaa equals any of the naturally occurring L-amino acids
```

```
Pro Cys Ile Ile Ala Ser Pro Arg Ser Leu Trp Pro Arg Trp Ala Ser
            20                  25                  30

Gly Lys Val Lys Asp Trp Val Asn Thr Ala Arg Val Gly Arg Thr Ser
        35                  40                  45

Leu Arg Leu Pro Val Arg Lys Val Glu Glu Ala Trp Val
    50                  55                  60



<210> 747
<211> 53
<212> PRT
<213> Homo sapiens

<400> 747
Asn Tyr Asn Arg Gly Gly Thr Phe Leu Tyr Gln Lys Ala Lys Ile Lys
  1               5                  10                  15

His His Val Leu Met Val Phe Tyr Lys Ser Thr Ser Asn Ser Thr Glu
            20                  25                  30

Ser Leu Ile Trp Ser Leu Leu Asn Ser Trp Ser Asp Lys Val Thr Phe
        35                  40                  45

Pro Lys Arg Val Arg
    50



<210> 748
<211> 56
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (35)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (42)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (46)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 748
Lys Ser Gln Met Gln Ser Phe Thr Ile Val Thr Ala Tyr Gly Arg Cys
  1               5                  10                  15

Leu Ser Leu Thr Cys Leu Pro Thr Leu Asn Gln Met Leu Val Phe Lys
            20                  25                  30

Ser Asn Xaa Ser Leu Val Ser Pro His Xaa Leu Thr Phe Xaa Asn Ile
```

```
    130                 135                 140

Leu Pro Ala Asp Ser Ile Ala Pro Phe His Ile Cys Tyr Tyr Gly Arg
145                 150                 155                 160

Leu Phe Trp Glu Trp Gly Asp Gly Ile Arg Val His Asp Ser Gln Lys
                165                 170                 175

Pro Gln Asp Gln Asp Lys Leu Ser Lys Glu Asp Val Leu Ser Phe Ile
            180                 185                 190

Gln Met His Arg Ala
        195



<210> 744
<211> 1
<212> PRT
<213> Homo sapiens

<400> 744
Asn
 1



<210> 745
<211> 61
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (58)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 745
Met His Ser Lys Gln Thr Leu Leu Trp Lys Glu Leu Leu Leu Ala Ile
 1                5                  10                  15

Pro Cys Ile Ile Ala Ser Pro Arg Ser Leu Trp Pro Arg Trp Ala Ser
             20                  25                  30

Gly Lys Val Lys Asp Trp Val Asn Thr Ala Arg Val Gly Arg Thr Ser
         35                  40                  45

Leu Arg Leu Pro Val Arg Lys Val Glu Xaa Ala Trp Val
     50                  55                  60



<210> 746
<211> 61
<212> PRT
<213> Homo sapiens

<400> 746
Met His Ser Lys Gln Thr Leu Leu Trp Lys Glu Leu Leu Leu Ala Ile
 1                5                  10                  15
```

<212> PRT
<213> Homo sapiens

<400> 741
Met Arg His Cys Cys Trp Leu Trp Ser Ser Cys Met Leu Trp Glu Pro
1 5 10 15

Ser Thr Thr Leu Gly Ser Ser Pro Arg Leu Val Glu Arg Trp Gln Ser
20 25 30

Cys Arg Trp Thr Pro Cys Cys Pro Lys
35 40

<210> 742
<211> 18
<212> PRT
<213> Homo sapiens

<400> 742
Val His Lys Ser Ala Gly Leu Leu Trp Glu Ala Thr Gly Glu Gly Pro
1 5 10 15

Gly Ser

<210> 743
<211> 197
<212> PRT
<213> Homo sapiens

<400> 743
Val Glu Ile Val His Glu Leu Lys Gly Glu Gly Lys Ala Gln Arg Lys
1 5 10 15

Ile Ser Ala Ile His Ile Leu Asp Val Leu Val Leu Asn Gly Thr Asp
20 25 30

Val Arg Glu Gln His Phe Asn Gln Arg Ile Gln Leu Ala Glu Lys Phe
35 40 45

Val Lys Ala Val Ser Lys Pro Ser Arg Pro Asp Met Asn Pro Ile Arg
50 55 60

Val Lys Glu Val Tyr Arg Leu Glu Glu Met Glu Lys Ile Phe Val Arg
65 70 75 80

Leu Glu Met Lys Ile Ile Lys Gly Ser Ser Gly Thr Pro Lys Leu Ser
85 90 95

Tyr Thr Gly Arg Asp Asp Arg His Phe Val Pro Met Gly Leu Tyr Ile
100 105 110

Val Arg Thr Val Asn Glu Pro Trp Thr Met Gly Phe Ser Lys Ser Phe
115 120 125

Lys Lys Lys Phe Phe Tyr Asn Lys Lys Thr Lys Asp Ser Thr Phe Asp

```
            340                      345                      350

Leu Val Ala Arg Thr Arg Val Pro Ala Lys Lys Leu Glu
        355                     360                     365



<210> 738
<211> 34
<212> PRT
<213> Homo sapiens

<400> 738
Met Leu Trp Pro Cys Cys Pro Ser Pro Leu Pro Ile Trp Ala Ser Pro
  1               5                  10                  15

Ser Pro Arg Leu Thr Trp Trp Cys Leu Leu Ser Cys Phe Gly Thr Gln
             20                  25                  30

Gly Cys



<210> 739
<211> 34
<212> PRT
<213> Homo sapiens

<400> 739
Met Leu Trp Pro Cys Cys Pro Ser Pro Leu Pro Ile Trp Ala Ser Pro
  1               5                  10                  15

Ser Pro Arg Leu Thr Trp Trp Cys Leu Leu Ser Cys Phe Gly Thr Gln
             20                  25                  30

Gly Cys



<210> 740
<211> 41
<212> PRT
<213> Homo sapiens

<400> 740
Met Arg His Cys Cys Trp Leu Trp Ser Ser Cys Met Leu Trp Glu Pro
  1               5                  10                  15

Ser Thr Thr Leu Gly Ser Ser Pro Arg Leu Val Glu Arg Trp Gln Ser
             20                  25                  30

Cys Arg Trp Thr Pro Cys Cys Pro Lys
         35                  40


<210> 741
<211> 41
```

```
            20                  25                  30

Leu Ser Leu Val Val Ser Pro Asp Ser Ile His Ser Val Ala Pro Glu
        35                  40                  45

Asn Glu Gly Arg Leu Val His Ile Ile Gly Ala Leu Arg Thr Ser Lys
    50                  55                  60

Leu Leu Ser Asp Pro Asn Tyr Gly Val His Leu Pro Ala Val Lys Leu
65                  70                  75                  80

Arg Arg His Val Glu Met Tyr Gln Trp Val Glu Thr Glu Glu Ser Arg
                85                  90                  95

Glu Tyr Thr Glu Asp Gly Gln Val Lys Lys Glu Thr Arg Tyr Ser Tyr
            100                 105                 110

Asn Thr Glu Trp Arg Ser Glu Ile Ile Asn Ser Lys Asn Phe Asp Arg
        115                 120                 125

Glu Ile Gly His Lys Asn Pro Ser Ala Met Ala Val Glu Ser Phe Met
    130                 135                 140

Ala Thr Ala Pro Phe Val Gln Ile Gly Arg Phe Phe Leu Ser Ser Gly
145                 150                 155                 160

Leu Ile Asp Lys Val Asp Asn Phe Lys Ser Leu Ser Leu Ser Lys Leu
                165                 170                 175

Glu Asp Pro His Val Asp Ile Ile Arg Arg Gly Asp Phe Phe Tyr His
            180                 185                 190

Ser Glu Asn Pro Lys Tyr Pro Glu Val Gly Asp Leu Arg Val Ser Phe
        195                 200                 205

Ser Tyr Ala Gly Leu Ser Gly Asp Asp Pro Asp Leu Gly Pro Ala His
    210                 215                 220

Val Val Thr Val Ile Ala Arg Gln Arg Gly Asp Gln Leu Val Pro Phe
225                 230                 235                 240

Ser Thr Lys Ser Gly Asp Thr Leu Leu Leu Leu His His Gly Asp Phe
                245                 250                 255

Ser Ala Glu Glu Val Phe His Arg Glu Leu Arg Ser Asn Ser Met Lys
            260                 265                 270

Thr Trp Gly Leu Arg Ala Ala Gly Trp Met Ala Met Phe Met Gly Leu
        275                 280                 285

Asn Leu Met Thr Arg Ile Leu Tyr Thr Leu Val Asp Trp Phe Pro Val
    290                 295                 300

Phe Arg Asp Leu Val Asn Ile Gly Leu Lys Ala Phe Ala Phe Cys Val
305                 310                 315                 320

Ala Thr Ser Leu Thr Leu Leu Thr Val Ala Ala Gly Trp Leu Phe Tyr
                325                 330                 335

Arg Pro Leu Trp Ala Leu Leu Ile Ala Gly Leu Ala Leu Val Pro Ile
```

```
Asn Thr Glu Trp Arg Ser Glu Ile Ile Asn Ser Lys Asn Phe Asp Arg
        115                 120                 125

Glu Ile Gly His Lys Asn Pro Ser Ala Met Ala Val Glu Ser Phe Xaa
    130                 135                 140

Ala Thr Ala Pro Phe Val Gln Ile Gly Arg Phe Phe Leu Ser Ser Gly
145                 150                 155                 160

Leu Ile Asp Lys Val Asp Asn Phe Lys Ser Leu Ser Leu Ser Lys Leu
                165                 170                 175

Glu Asp Pro His Val Asp Ile Ile Arg Arg Gly Asp Phe Phe Tyr His
            180                 185                 190

Ser Glu Asn Pro Lys Tyr Pro Glu Xaa Gly Asp Leu Arg Val Ser Phe
        195                 200                 205

Ser Tyr Ala Gly Leu Ser Gly Asp Asp Pro Asp Leu Gly Pro Ala His
    210                 215                 220

Val Val Thr Val Ile Ala Arg Gln Arg Gly Asp Gln Leu Val Pro Phe
225                 230                 235                 240

Ser Thr Lys Ser Gly Asp Thr Leu Leu Leu Leu His His Gly Asp Phe
                245                 250                 255

Ser Ala Glu Glu Val Phe His Arg Glu Leu Arg Ser Asn Ser Met Lys
            260                 265                 270

Thr Trp Gly Leu Arg Ala Ala Gly Trp Met Ala Met Phe Met Gly Leu
        275                 280                 285

Asn Leu Met Thr Arg Ile Leu Tyr Thr Leu Val Asp Trp Phe Pro Val
    290                 295                 300

Phe Arg Asp Leu Val Asn Ile Gly Leu Lys Ala Phe Ala Phe Cys Val
305                 310                 315                 320

Ala Thr Ser Leu Thr Leu Leu Thr Val Ala Ala Gly Trp Leu Phe Tyr
                325                 330                 335

Arg Pro Leu Trp Ala Leu Leu Ile Ala Gly Leu Ala Leu Val Pro Ile
            340                 345                 350

Leu Val Ala Arg Thr Arg Val Pro Ala Lys Lys Leu Glu
        355                 360                 365


<210> 737
<211> 365
<212> PRT
<213> Homo sapiens

<400> 737
Met Phe Val Gly Leu Met Ala Phe Leu Leu Ser Phe Tyr Leu Ile Phe
1               5                   10                  15

Thr Asn Glu Gly Arg Ala Leu Lys Thr Ala Thr Ser Leu Ala Glu Gly
```

```
Lys Ser Thr Pro Lys Thr Thr Ser Val Ser Gln Asn Thr Ser Gln Ile
        115                 120                 125

Ser Thr Ser Thr Met Thr Val Thr His Asn Ser Ser Val Thr Ser Ala
    130                 135                 140

Ala Ser Ser Val Thr Ile Thr Thr Thr Met His Ser Glu Ala Lys Lys
145                 150                 155                 160

Gly Ser Lys Phe Asp Thr Gly Ser Phe Val Gly Gly Ile Val Leu Thr
                165                 170                 175

Leu Gly Val Leu Ser Ile Leu Tyr Ile Gly Cys Lys Met Tyr Tyr Ser
            180                 185                 190

Arg Arg Gly Ile Arg Tyr Arg Thr Ile Asp Glu His Asp Ala Ile Ile
        195                 200                 205




<210> 736
<211> 365
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (144)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (201)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 736
Met Phe Val Gly Leu Met Ala Phe Leu Leu Ser Phe Tyr Leu Ile Phe
  1               5                  10                  15

Thr Asn Glu Gly Arg Ala Leu Lys Thr Ala Thr Ser Leu Ala Glu Gly
             20                  25                  30

Leu Ser Leu Val Val Ser Pro Asp Ser Ile His Ser Val Ala Pro Glu
         35                  40                  45

Asn Glu Gly Arg Leu Val His Ile Ile Gly Ala Leu Arg Thr Ser Lys
     50                  55                  60

Leu Leu Ser Asp Pro Asn Tyr Gly Val His Leu Pro Ala Val Lys Leu
 65                  70                  75                  80

Arg Arg His Val Glu Met Tyr Gln Trp Val Glu Thr Glu Glu Ser Arg
                 85                  90                  95

Glu Tyr Thr Glu Asp Gly Gln Val Lys Lys Glu Thr Arg Tyr Ser Tyr
            100                 105                 110
```

```
Glu Thr Ser Asn Ser Thr Val Lys Pro Pro Thr Ser Val Ala Ser Asp
65                  70                  75                  80

Ser Ser Asn Thr Thr Val Thr Thr Met Lys Pro Thr Ala Ala Ser Asn
                85                  90                  95

Thr Thr Thr Pro Gly Met Val Ser Thr Asn Met Thr Ser Thr Thr Leu
            100                 105                 110

Lys Ser Thr Pro Lys Thr Thr Ser Val Ser Gln Asn Thr Ser Gln Ile
        115                 120                 125

Ser Thr Ser Thr Met Thr Val Thr His Asn Ser Ser Val Thr Ser Ala
    130                 135                 140

Ala Ser Ser Val Thr Ile Thr Thr Thr Met His Ser Glu Ala Lys Lys
145                 150                 155                 160

Gly Ser Lys Phe Asp Thr Gly Ser Phe Val Gly Gly Ile Val Leu Thr
                165                 170                 175

Leu Gly Val Leu Ser Ile Leu Tyr Ile Gly Cys Lys Met Tyr Tyr Ser
            180                 185                 190

Arg Arg Gly Ile Arg Tyr Arg Thr Ile Asp Glu His Asp Ala Ile Ile
        195                 200                 205




<210> 735
<211> 208
<212> PRT
<213> Homo sapiens

<400> 735
Met Gly Leu Gly Ala Arg Gly Ala Trp Ala Ala Leu Leu Leu Gly Thr
1               5                   10                  15

Leu Gln Val Leu Ala Leu Leu Gly Ala Ala His Glu Ser Ala Ala Met
            20                  25                  30

Ala Ala Ser Ala Asn Ile Glu Asn Ser Gly Leu Pro His Asn Ser Ser
        35                  40                  45

Ala Asn Ser Thr Glu Thr Leu Gln His Val Pro Ser Asp His Thr Asn
    50                  55                  60

Glu Thr Ser Asn Ser Thr Val Lys Pro Pro Thr Ser Val Ala Ser Asp
65                  70                  75                  80

Ser Ser Asn Thr Thr Val Thr Thr Met Lys Pro Thr Ala Ala Ser Asn
                85                  90                  95

Thr Thr Thr Pro Gly Met Val Ser Thr Asn Met Thr Ser Thr Thr Leu
            100                 105                 110
```

1 5 10 15

Leu Gln Val Leu Ala Leu Leu Gly Ala Ala His Glu Ser Ala Ala Met
20 25 30

Ala Ala Ser Ala Asn Ile Glu Asn Ser Gly Leu Pro His Asn Ser Ser
35 40 45

Ala Asn Ser Thr Glu Thr Leu Gln His Val Pro Ser Asp His Thr Asn
50 55 60

Glu Thr Ser Asn Ser Thr Val Lys Pro Pro Thr Ser Val Ala Ser Asp
65 70 75 80

Ser Ser Asn Thr Thr Val Thr Thr Met Lys Pro Thr Ala Ala Ser Asn
85 90 95

Thr Thr Thr Pro Gly Met Val Ser Thr Asn Met Thr Ser Thr Thr Leu
100 105 110

Lys Ser Thr Pro Lys Thr Thr Ser Val Ser Gln Asn Thr Ser Gln Ile
115 120 125

Ser Thr Ser Thr Met Thr Val Thr His Asn Ser Ser Val Thr Ser Ala
130 135 140

Ala Ser Ser Val Thr Ile Thr Thr Thr Met His Ser Glu Ala Lys Lys
145 150 155 160

Gly Ser Lys Phe Asp Thr Gly Ser Phe Val Gly Gly Ile Val Leu Thr
165 170 175

Leu Gly Val Leu Ser Ile Leu Tyr Ile Gly Cys Lys Met Tyr Tyr Ser
180 185 190

Arg Arg Gly Ile Arg Tyr Arg Thr Ile Asp Glu His Asp Ala Ile Ile
195 200 205

<210> 734
<211> 208
<212> PRT
<213> Homo sapiens

<400> 734
Met Gly Leu Gly Ala Arg Gly Ala Trp Ala Ala Leu Leu Leu Gly Thr
1 5 10 15

Leu Gln Val Leu Ala Leu Leu Gly Ala Ala His Glu Ser Ala Ala Met
20 25 30

Ala Ala Ser Ala Asn Ile Glu Asn Ser Gly Leu Pro His Asn Ser Ser
35 40 45

Ala Asn Ser Thr Glu Thr Leu Gln His Val Pro Ser Asp His Thr Asn
50 55 60

```
<210> 732
<211> 208
<212> PRT
<213> Homo sapiens

<400> 732
Met Gly Leu Gly Ala Arg Gly Ala Trp Ala Ala Leu Leu Leu Gly Thr
 1               5                   10                  15

Leu Gln Val Leu Ala Leu Leu Gly Ala Ala His Glu Ser Ala Ala Met
             20                  25                  30

Ala Ala Ser Ala Asn Ile Glu Asn Ser Gly Leu Pro His Asn Ser Ser
         35                  40                  45

Ala Asn Ser Thr Glu Thr Leu Gln His Val Pro Ser Asp His Thr Asn
     50                  55                  60

Glu Thr Ser Asn Ser Thr Val Lys Pro Pro Thr Ser Val Ala Ser Asp
 65                  70                  75                  80

Ser Ser Asn Thr Thr Val Thr Thr Met Lys Pro Thr Ala Ala Ser Asn
                 85                  90                  95

Thr Thr Thr Pro Gly Met Val Ser Thr Asn Met Thr Ser Thr Thr Leu
            100                 105                 110

Lys Ser Thr Pro Lys Thr Thr Ser Val Ser Gln Asn Thr Ser Gln Ile
        115                 120                 125

Ser Thr Ser Thr Met Thr Val Thr His Asn Ser Ser Val Thr Ser Ala
    130                 135                 140

Ala Ser Ser Val Thr Ile Thr Thr Thr Met His Ser Glu Ala Lys Lys
145                 150                 155                 160

Gly Ser Lys Phe Asp Thr Gly Ser Phe Val Gly Gly Ile Val Leu Thr
                165                 170                 175

Leu Gly Val Leu Ser Ile Leu Tyr Ile Gly Cys Lys Met Tyr Tyr Ser
            180                 185                 190

Arg Arg Gly Ile Arg Tyr Arg Thr Ile Asp Glu His Asp Ala Ile Ile
        195                 200                 205



<210> 733
<211> 208
<212> PRT
<213> Homo sapiens

<400> 733
Met Gly Leu Gly Ala Arg Gly Ala Trp Ala Ala Leu Leu Leu Gly Thr
```

```
Pro Gln Gly Pro Asn Asp Val Thr Ala Lys Leu Leu Cys Pro
  1               5                  10



<210> 730
<211> 67
<212> PRT
<213> Homo sapiens

<400> 730
Met Ala Pro Ser Gly Pro Leu Leu Leu Val Leu Leu Val Pro Leu Ala
  1               5                  10                  15

Ala Ala Arg Pro Gly Pro Thr Ser Val Pro Ala Gly Ala Ala Ala Cys
            20                  25                  30

Pro Cys Gly Gly Thr Ser Cys Arg Gly Trp Gly Ala Gly Pro Thr Pro
        35                  40                  45

Gly Arg Thr Ser Thr Cys Pro His Leu Thr Cys Pro Arg Ala Gly Thr
    50                  55                  60

Gly Ala Thr
 65



<210> 731
<211> 129
<212> PRT
<213> Homo sapiens

<400> 731
Met Ala Pro Ser Gly Pro Leu Leu Leu Val Leu Leu Val Pro Leu Ala
  1               5                  10                  15

Ala Ala Arg Ala Gly Pro Tyr Phe Arg Pro Gly Arg Gly Cys Arg Leu
            20                  25                  30

Pro Leu Arg Gly Asp Gln Leu Ser Gly Leu Gly Arg Arg Thr Tyr Pro
        35                  40                  45

Arg Pro His Glu Tyr Leu Ser Pro Ser Asp Leu Pro Lys Ser Trp Asp
    50                  55                  60

Trp Arg Asn Val Asn Gly Val Asn Tyr Ala Ser Ala Thr Arg Asn Gln
 65                  70                  75                  80

His Ile Pro Gln Tyr Cys Gly Ser Cys Trp Ala His Gly Ser Thr Ser
                 85                  90                  95

Ala Met Ala Gly Pro Asp Gln His Gln Glu Lys Gly Gly Val Ala Leu
            100                 105                 110

His Pro Ala Val Arg Ala Ala Arg Pro Arg Leu Arg Gln Arg Gly Leu
        115                 120                 125

Leu
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<210> 727
<211> 112
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (103)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (112)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 727
Met Lys Thr Leu Leu Leu Leu Val Gly Leu Leu Leu Thr Trp Glu Asn
1               5                   10                  15

Gly Arg Val Leu Gly Asp Gln Met Val Ser Asp Thr Glu Leu Gln Glu
            20                  25                  30

Met Ser Thr Glu Gly Ser Lys Tyr Ile Asn Arg Glu Ile Lys Asn Ala
        35                  40                  45

Leu Lys Gly Val Lys Gln Ile Lys Thr Leu Ile Glu Gln Thr Asn Glu
    50                  55                  60

Glu Arg Lys Ser Leu Leu Thr Asn Leu Glu Glu Ala Lys Lys Lys Lys
65                  70                  75                  80

Glu Asp Ala Leu Asn Asp Thr Lys Asp Ser Glu Met Lys Leu Lys Ala
                85                  90                  95

Ser Pro Gly Val Phe Asn Xaa Thr Leu Asp Gly Pro Leu Gly Gly Xaa
            100                 105                 110



<210> 728
<211> 6
<212> PRT
<213> Homo sapiens

<400> 728
Met Leu Leu Leu Tyr Leu
1               5



<210> 729
<211> 14
<212> PRT
<213> Homo sapiens

<400> 729
```

```
<210> 724
<211> 14
<212> PRT
<213> Homo sapiens

<400> 724
Leu Leu Leu Val Gly Leu Gln Gln Leu Val Val Gln Ala Trp
  1               5                  10


<210> 725
<211> 7
<212> PRT
<213> Homo sapiens

<400> 725
Leu Leu Val Val Leu Leu Ser
  1               5


<210> 726
<211> 139
<212> PRT
<213> Homo sapiens

<400> 726
Met Lys Thr Leu Leu Leu Leu Val Gly Leu Leu Leu Thr Trp Glu Asn
  1               5                  10                  15

Gly Arg Val Leu Gly Asp Gln Met Val Ser Asp Thr Glu Leu Gln Glu
             20                  25                  30

Met Ser Thr Glu Gly Ser Lys Tyr Ile Asn Arg Glu Ile Lys Asn Ala
         35                  40                  45

Leu Lys Gly Val Lys Gln Ile Lys Thr Leu Ile Glu Gln Thr Asn Glu
     50                  55                  60

Glu Arg Lys Ser Leu Leu Thr Asn Leu Glu Glu Ala Lys Lys Lys Lys
 65                  70                  75                  80

Glu Asp Ala Leu Asn Asp Thr Lys Asp Ser Glu Met Lys Leu Lys Ala
                 85                  90                  95

Ser Gln Gly Val Cys Asn Asp Thr Met Met Ala Leu Trp Glu Glu Cys
            100                 105                 110

Lys Pro Cys Leu Lys Gln Thr Trp Gly Lys Gly Leu Arg Pro Ser Leu
        115                 120                 125

Gln Lys Gln His Arg Ala Gly Trp Pro Pro Gly
    130                 135
```

```
Lys Val Lys Ala Phe Leu Ala Asp Pro Ser Ala Phe Val Ala Ala Ala
225                 230                 235                 240

Pro Val Ala Ala Ala Thr Thr Ala Ala Pro Ala Ala Ala Ala Ala Pro
                245                 250                 255

Ala Lys Val Glu Ala Lys Glu Glu Ser Glu Glu Xaa Asp Glu Xaa Ile
            260                 265                 270

Xaa Xaa Ser Xaa Ile Ser Lys Ser Asn Asn Ser Ser Gln Xaa Ile Val
        275                 280                 285
```

```
<210> 723
<211> 112
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (71)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (103)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (112)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 723
Met Lys Thr Leu Leu Leu Leu Val Gly Leu Leu Leu Thr Trp Glu Asn
 1               5                   10                  15

Gly Arg Val Leu Gly Asp Gln Met Val Ser Asp Thr Glu Leu Gln Glu
            20                  25                  30

Met Ser Thr Glu Gly Ser Lys Tyr Ile Asn Arg Glu Ile Lys Asn Ala
        35                  40                  45

Leu Lys Gly Val Lys Gln Ile Lys Thr Leu Ile Glu Gln Thr Asn Glu
    50                  55                  60

Glu Arg Lys Ser Leu Leu Xaa Asn Leu Glu Glu Ala Lys Lys Lys Lys
65                  70                  75                  80

Glu Asp Ala Leu Asn Asp Thr Lys Asp Ser Glu Met Lys Leu Lys Ala
                85                  90                  95

Ser Pro Gly Val Phe Asn Xaa Thr Leu Asp Gly Pro Leu Gly Gly Xaa
            100                 105                 110
```

```
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (274)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (276)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (286)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 722
Phe Ser Ser Ser Ala Cys Pro Ser Val Xaa Ser Leu Phe Val Xaa Leu
 1               5                   10                  15

Gly Lys Asn Pro His Asp Ala Gln Gly His Pro Arg Ala Ser Glu Asp
             20                  25                  30

Gln Pro Ser Ser Gly Lys Pro Val Thr Ser Tyr Pro Gly Glu Cys Gly
         35                  40                  45

Phe Val Phe Thr Lys Glu Ala Ser Leu Glu Ile Arg Asp Met Leu Leu
     50                  55                  60

Ala Asn Lys Val Pro Ala Ala Ala Arg Ala Gly Ala Ile Ala Pro Cys
 65                  70                  75                  80

Glu Val Thr Val Pro Ala Gln Asn Thr Gly Leu Gly Pro Glu Lys Thr
                 85                  90                  95

Ser Phe Phe Gln Ala Leu Gly Ile Thr Thr Lys Ile Ser Arg Gly Thr
            100                 105                 110

Ile Glu Ile Leu Ser Asp Val Gln Leu Ile Lys Thr Gly Asp Lys Val
        115                 120                 125

Gly Ala Ser Glu Ala Thr Leu Leu Asn Met Leu Asn Ile Ser Pro Phe
    130                 135                 140

Ser Phe Gly Leu Ile Ile Gln Gln Val Phe Asp Asn Gly Ser Ile Tyr
145                 150                 155                 160

Asn Pro Glu Val Leu Asp Ile Thr Glu Glu Thr Leu His Ser Arg Phe
                165                 170                 175

Leu Glu Gly Val Arg Asn Val Ala Ser Val Cys Leu Gln Ile Gly Tyr
            180                 185                 190

Pro Thr Val Ala Ser Val Pro His Ser Ile Ile Asn Gly Tyr Lys Arg
        195                 200                 205

Val Leu Ala Leu Ser Val Glu Thr Asp Tyr Thr Phe Pro Leu Ala Glu
    210                 215                 220
```

```
Leu Cys Leu



<210> 721
<211> 90
<212> PRT
<213> Homo sapiens

<400> 721
Met Asp Tyr Gly Gly Leu Gln Ser Leu Leu Trp Thr Leu Thr Leu Ala
 1               5                   10                  15

Ser Ser Pro Val Leu Phe Pro Met Ala Leu Gly Asp Pro Pro Gly Gln
            20                  25                  30

Lys Gly Ser Gly Val Trp His Pro Leu Met Pro Ala Ser Ser Ser Ala
        35                  40                  45

Met Cys Ala Ala Ser Gly Thr Met Trp Pro Arg Ser Tyr Phe Arg Ala
    50                  55                  60

Gln Ile Trp Ala Pro Gln Lys Arg Gln Ser Gly Pro Gly Arg Lys Pro
 65                  70                  75                  80

Ala Ser Thr Ala Pro Cys Gly Arg Ser Met
                85                  90



<210> 722
<211> 288
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (10)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (15)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (268)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (271)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (273)
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```
Tyr Gly Phe Ser Tyr Leu Asn Val Leu Ile Asp Phe Cys Ile Phe Phe
65                  70                  75                  80

Ser Leu Arg Glu Tyr Leu Leu Ile Phe Asp Val Gln Gly Val Ala Met
                85                  90                  95

Glu Gln Pro Leu Leu Pro Leu Leu Gly Arg Ser Leu Ala Leu Trp Pro
            100                 105                 110

Gly Trp Gly Gly His Pro Pro Ser Arg Val Gln Gly Arg Gly Gln Glu
        115                 120                 125

His Leu Cys Trp Gly Gly Gly Arg Ala Lys Gly Val Cys Leu Pro Asp
    130                 135                 140

Ile Gln Thr Leu Phe Tyr Thr Tyr Ile
145                 150


<210> 719
<211> 46
<212> PRT
<213> Homo sapiens

<400> 719
Met Arg Met Lys Met Arg Lys Arg Lys Trp Gln Leu Gly Gly Cys Pro
 1               5                  10                  15

Pro Asp Gly Val Ser Trp Glu Leu Pro Ser Gly Leu Val Leu Pro Ala
            20                  25                  30

Leu Leu Ile Glu Lys Pro Ala Pro Ser Ala Ala Ala Glu Pro
        35                  40                  45


<210> 720
<211> 99
<212> PRT
<213> Homo sapiens

<400> 720
Gly Val Ser Trp Glu Gly Thr Pro Met Ser Pro Phe Pro Phe Met Gly
 1               5                  10                  15

Leu Gly Ser Gly Val Arg Gly Ser His Ser Glu Phe Ala Val Thr Gln
            20                  25                  30

Leu Leu Val Asp Leu Pro Thr Lys Phe Gly His Val Leu Leu Gly Glu
        35                  40                  45

Ala Glu Trp Leu Arg Gln Gly Gln Met Leu Ala Val Leu Gln His Lys
    50                  55                  60

Ser Thr Thr Val Thr Val Ile Ile Leu Pro Gly His Ile His Phe Glu
65                  70                  75                  80

Val Thr Phe Pro Ala Leu Val Glu Ile Gln Ser Val Phe Leu Tyr Arg
                85                  90                  95
```

```
Gln Asp Val Pro Cys Asp Tyr His Pro Cys Lys His Leu Gln Thr Pro
545                 550                 555                 560

Cys Ala Glu Leu Gln Arg Arg Ser Arg Cys Arg Cys Pro Gly Leu Ser
                565                 570                 575

Gly Glu Asp Ser Leu Pro Asp Pro Pro Arg Leu Gln Ala Val Thr Glu
            580                 585                 590

Thr Thr Asp Thr Ser Ala Leu Val Arg Trp Cys Ala Pro Asn Ser Val
        595                 600                 605

Val His Gly Tyr Gln Ile His Tyr Ser Pro Glu Gly Trp Ala Glu Asn
    610                 615                 620

Gln Ser Val Thr Val Val Ala Asp Ile Tyr Ala Thr Ala Arg Gln His
625                 630                 635                 640

Pro Leu Tyr Gly Leu Ser Pro Gly Thr Met Tyr Arg Val Cys Val Leu
                645                 650                 655

Ala Ala Asn Arg Ala Gly Leu Ser Gln Pro Val Gln Ala Ser Gly Trp
            660                 665                 670

Thr Arg Ala Cys Ala Ala Phe Thr Thr Lys Pro Ser Phe Val Leu Val
        675                 680                 685

Phe Ala Gly Leu Cys Ala Ala Cys Gly Leu Leu Leu Val Thr Thr Leu
    690                 695                 700

Leu Leu Ala Ala Cys Leu Cys Arg Arg Ser Arg Thr Val Arg Leu Gln
705                 710                 715                 720

Arg Tyr Asn Thr His Leu Val Ala Tyr Lys Asn Pro Ala Phe Asp Tyr
                725                 730                 735

Pro Leu Lys Leu Gln Thr Leu Ser
            740


<210> 718
<211> 153
<212> PRT
<213> Homo sapiens

<400> 718
Ala Ile His Phe Thr Gln Gln Asp Met Pro Gln Ile Arg Arg Gln Ile
 1              5                   10                  15

Tyr Lys Glu Leu Cys His Ala Asn Ser Leu Cys Glu Arg Arg Ile Pro
            20                  25                  30

Gly Leu Lys Pro Met Val Lys Gly Met Gly Thr Trp Gly Thr Leu Pro
        35                  40                  45

Ser Arg Glu Thr Pro Val Pro Leu Leu Pro Leu Pro Leu Pro Val Pro
    50                  55                  60
```

```
Asp Leu Pro Lys Leu Thr Ser Leu His Leu Arg Lys Met Pro Arg Leu
225                 230                 235                 240

Arg Ile Leu Glu Ala Ala Val Phe Lys Met Thr Pro Asn Leu Gln Gln
                245                 250                 255

Leu Asp Cys Gln Asp Ser Ser Ala Leu Thr Ser Val His Thr Gln Leu
            260                 265                 270

Phe Gln Asp Thr Pro Arg Leu Gln Val Leu Leu Phe Gln Asn Cys Asn
        275                 280                 285

Leu Ser Ser Phe Pro Pro Trp Ser Leu His Ser Ser Gln Val Leu Ser
    290                 295                 300

Ile Ser Leu Phe Gly Asn Pro Leu Ile Cys Ser Cys Glu Leu Ser Trp
305                 310                 315                 320

Leu Leu Arg Asp Ala Lys Arg Thr Val Leu Ser Arg Ala Ala Asp Thr
                325                 330                 335

Val Cys Val Pro Ala Ser Gly Ser Arg Asp Thr Phe Ser Ala Pro Leu
            340                 345                 350

Ser Leu Ser Gln Leu Pro Thr Val Cys His Leu Asp Gln Ser Thr Thr
        355                 360                 365

Leu His Ser Ser Ser Pro Gln Ala Val Pro Phe Thr His Gln Pro Ser
    370                 375                 380

Thr Gln Gly Leu Thr Thr Pro Trp Ser Thr Ala Pro Ser Thr Arg Pro
385                 390                 395                 400

Val Glu Ala Glu Gln Ser Val Thr Lys Pro Leu Ser Phe Pro Thr Asp
                405                 410                 415

Ser Ala Thr Gln Thr Ala Trp Ser His Ser Gly Ile Lys Val Gly Thr
            420                 425                 430

Ala Arg Ser Thr Ala Ile Pro Thr Ala Asp Ser Ser Thr Ser Ser Ala
        435                 440                 445

Pro Arg Arg Ala Ala Asn Thr Ala Gly Ala Glu His Gln Glu His Ala
    450                 455                 460

Pro Met Leu Val His Ala Pro His Val Ser Ala Ala Ser Thr Pro Ser
465                 470                 475                 480

Ala Ser Lys His Pro Gly Leu Phe Pro Thr Pro Trp Ser Gln Val Arg
                485                 490                 495

Thr Pro Gln Pro Asp Tyr Arg Ala Gln Ala Thr Leu Gln Ala Pro His
            500                 505                 510

Pro Ser Pro Ser Glu Gly Ala Ile Pro Val Leu Leu Leu Asp Glu Ser
        515                 520                 525

Ser Glu Glu Glu Glu Glu Gly Gln Lys Glu Glu Val Gly Ala Pro Pro
    530                 535                 540
```

```
 1               5                   10                  15

Arg Leu Cys Leu Ala Gly Leu Pro His Xaa Phe Arg His Thr Asn Arg
             20                  25                  30

Met Val Pro Gln Trp His Gln Ser Gly Asp Arg Pro Leu His Ser His
         35                  40                  45

Pro His Ser Arg Phe
     50



<210> 717
<211> 744
<212> PRT
<213> Homo sapiens

<400> 717
Met Trp Trp Ala Leu Leu Ala Leu Pro Phe Leu Leu Pro Thr Ala Leu
 1               5                   10                  15

Arg Leu Cys Leu Ala Gly Pro Pro Pro Glu Arg Gly Pro Leu Phe Trp
             20                  25                  30

Leu Thr Arg Gln Asp Ser Arg Glu Ser Gly Ala Ala Asn Ala Thr Val
         35                  40                  45

Ser Pro Cys Glu Gly Leu Pro Ser Ala Gly Ala Ser Thr Leu Thr Leu
     50                  55                  60

Ala Asn Arg Ser Leu Glu Arg Leu Pro Asn Cys Leu Pro Pro Ala Leu
 65                  70                  75                  80

Arg Ser Leu Asp Ala Ser His Asn Leu Leu Arg Ala Leu Ser Ala Pro
                 85                  90                  95

Glu Leu Gly Ala Leu Pro Arg Leu Gln Ala Leu Thr Leu Arg His Asn
            100                 105                 110

Arg Ile Ala Glu Leu Arg Trp Gly Pro Gly Gly Pro Ala Ala Leu His
        115                 120                 125

Thr Leu Asp Leu Ser Tyr Asn Gln Leu Ala Thr Leu Pro Pro Cys Ala
    130                 135                 140

Gly Pro Ala Leu Pro Gly Leu Arg Ser Leu Ala Leu Ala Gly Asn Pro
145                 150                 155                 160

Leu Gln Ala Leu Gln Pro Gly Ala Phe Ala Cys Leu Pro Ala Leu Arg
                165                 170                 175

Leu Leu Asn Leu Ser Gly Thr Ala Leu Gly Arg Asp Leu Gly Ala Gly
            180                 185                 190

Ile Ala Asp Gly Ala Phe Ala Gly Ala Gly Gly Ala Leu Glu Val Leu
        195                 200                 205

Asp Leu Ser Gly Thr Phe Leu Glu Arg Val Arg Ser Gly Trp Ile Arg
    210                 215                 220
```

```
<210> 714
<211> 84
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (56)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 714
Gly Arg Pro Thr Arg Pro Leu Ser Ala Gln Asn Ala Ser Val Asn Phe
 1               5                  10                  15

Trp Glu Ala Ser Thr Leu Ala Ala Gln Arg Glu Leu Ala Met Gln Phe
            20                  25                  30

Leu Cys Pro Gly Asn His Cys Phe Pro Cys His Leu Leu Cys Ala Gln
         35                  40                  45

Lys Arg Tyr Asn Ser His Gln Xaa Thr Pro Val Val Thr Ala His Leu
     50                  55                  60

Val Cys Cys Val Phe Gln Gln Ser Val Leu Leu Gly Val Gln Leu Asn
 65                  70                  75                  80

Arg Leu Gly Val



<210> 715
<211> 32
<212> PRT
<213> Homo sapiens

<400> 715
Met Trp Trp Ala Leu Leu Ala Cys Arg Phe Cys Cys Pro Arg Arg Cys
 1               5                  10                  15

Ala Ser Ala Trp Gln Gly Leu Pro Arg Arg Gly Ala Leu Phe Ser Gly
            20                  25                  30



<210> 716
<211> 53
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (26)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 716
Met Trp Trp Ala Leu Leu Ala Leu Pro Phe Leu Leu Pro Thr Ala Leu
```

```
Pro Ser Ser Asn Glu Ser Arg Gln Cys Pro Asn Ala Arg Cys Gln Phe
                165                 170                 175

Ala Phe Tyr Gly Gly Glu Ser Gly Tyr His Arg Ala Leu Leu Gly Leu
            180                 185                 190

Gln Ile Phe Asn Ala Phe Met Phe Phe Trp Leu Ala Asn Phe Val Leu
        195                 200                 205

Ala Leu Gly Gln Val Thr Leu Ala Gly Ala Phe Ala Ser Tyr Tyr Trp
    210                 215                 220

Ala Leu Arg Lys Pro Asp Asp Leu Pro Ala Phe Pro Leu Phe Ser Ala
225                 230                 235                 240

Phe Gly Arg Ala Leu Arg Tyr His Thr Gly Ser Leu Ala Phe Gly Ala
                245                 250                 255

Leu Ile Leu Ala Ile Val Gln Ile Ile Arg Val Ile Leu Glu Tyr Leu
            260                 265                 270

Asp Gln Arg Leu Lys Ala Ala Glu Asn Lys Phe Ala Lys Cys Leu Met
        275                 280                 285

Thr Cys Leu Lys Cys Cys Phe Trp Cys Leu Glu Lys Phe Ile Lys Phe
    290                 295                 300

Leu Asn Arg Asn Ala Tyr Ile Met Ile Ala Ile Tyr Gly Thr Asn Phe
305                 310                 315                 320

Cys Thr Ser Ala Arg Asn Ala Phe Phe Leu Leu Met Arg Asn Ile Ile
                325                 330                 335

Arg Val Ala Val Leu Asp Lys Val Thr Asp Phe Leu Phe Leu Leu Gly
            340                 345                 350

Lys Leu Leu Ile Val Gly Ser Val Gly Ile Leu Ala Phe Phe Phe Phe
        355                 360                 365

Thr His Arg Ile Arg Ile Val Gln Asp Thr Ala Pro Pro Leu Asn Tyr
    370                 375                 380

Tyr Trp Val Pro Ile Leu Thr Val Ile Val Gly Ser Tyr Leu Ile Ala
385                 390                 395                 400

His Gly Phe Phe Ser Val Tyr Gly Met Cys Val Asp Thr Leu Phe Leu
                405                 410                 415

Cys Phe Leu Glu Asp Leu Glu Arg Asn Asp Gly Ser Ala Glu Arg Pro
            420                 425                 430

Tyr Phe Met Ser Ser Thr Leu Lys Lys Leu Leu Asn Lys Thr Asn Lys
        435                 440                 445

Lys Ala Ala Glu Ser
    450
```

```
            340                 345                 350

Lys Leu Leu Ile Val Gly Ser Val Gly Ile Leu Ala Phe Phe Phe Phe
        355                 360                 365

Thr His Arg Ile Arg Ile Val Gln Asp Thr Ala Pro Pro Leu Asn Tyr
    370                 375                 380

Tyr Trp Val Pro Ile Leu Thr Val Ile Val Gly Ser Tyr Leu Ile Ala
385                 390                 395                 400

His Gly Phe Phe Ser Val Tyr Gly Met Cys Val Asp Thr Leu Phe Leu
                405                 410                 415

Cys Phe Leu Glu Asp Leu Glu Arg Asn Asp Gly Ser Ala Glu Arg Xaa
            420                 425                 430

Tyr Phe Met Ser Ser Thr Leu Lys Lys Leu Leu Asn Lys Thr Asn Lys
        435                 440                 445

Lys Ala Ala Glu Ser
    450


<210> 713
<211> 453
<212> PRT
<213> Homo sapiens

<400> 713
Met Arg Met Ala Ser Ile Met Val Trp Val Met Ile Ile Met Val Ile
  1               5                  10                  15

Leu Val Leu Gly Tyr Gly Ile Phe His Cys Tyr Met Glu Tyr Ser Arg
             20                  25                  30

Leu Arg Gly Glu Ala Gly Ser Asp Val Ser Leu Val Asp Leu Gly Phe
         35                  40                  45

Gln Thr Asp Phe Arg Val Tyr Leu His Leu Arg Gln Thr Trp Leu Ala
     50                  55                  60

Phe Met Ile Ile Leu Ser Ile Leu Glu Val Ile Ile Ile Leu Leu Leu
 65                  70                  75                  80

Ile Phe Leu Arg Lys Arg Ile Leu Ile Ala Ile Ala Leu Ile Lys Glu
                 85                  90                  95

Ala Ser Arg Ala Val Gly Tyr Val Met Cys Ser Leu Leu Tyr Pro Leu
            100                 105                 110

Val Thr Phe Phe Leu Leu Cys Leu Cys Ile Ala Tyr Trp Ala Ser Thr
        115                 120                 125

Ala Val Phe Leu Ser Thr Ser Asn Glu Ala Val Tyr Lys Ile Phe Asp
    130                 135                 140

Asp Ser Pro Cys Pro Phe Thr Ala Lys Thr Cys Asn Pro Glu Thr Phe
145                 150                 155                 160
```

```
             20                  25                  30

Leu Arg Gly Glu Ala Gly Ser Asp Val Ser Leu Val Asp Leu Gly Phe
         35                  40                  45

Gln Thr Asp Phe Arg Val Tyr Leu His Leu Arg Gln Thr Trp Leu Ala
     50                  55                  60

Phe Met Ile Ile Leu Ser Ile Leu Glu Val Ile Ile Ile Leu Leu Leu
 65                  70                  75                  80

Ile Phe Leu Arg Lys Arg Ile Leu Ile Ala Ile Ala Leu Ile Lys Glu
                 85                  90                  95

Ala Ser Arg Ala Val Gly Tyr Val Met Cys Ser Leu Leu Tyr Pro Leu
            100                 105                 110

Val Thr Phe Phe Leu Leu Cys Leu Cys Ile Ala Tyr Trp Ala Ser Thr
        115                 120                 125

Ala Val Phe Leu Ser Thr Ser Asn Glu Ala Val Tyr Lys Ile Phe Asp
    130                 135                 140

Asp Ser Pro Cys Pro Phe Thr Ala Lys Thr Cys Asn Pro Glu Thr Phe
145                 150                 155                 160

Pro Ser Ser Asn Glu Ser Arg Gln Cys Pro Asn Ala Arg Cys Gln Phe
                165                 170                 175

Ala Phe Tyr Gly Gly Glu Ser Gly Tyr His Arg Ala Leu Leu Gly Leu
            180                 185                 190

Gln Ile Phe Asn Ala Phe Met Phe Phe Trp Leu Ala Asn Phe Val Leu
        195                 200                 205

Ala Leu Gly Gln Val Thr Leu Ala Gly Ala Phe Ala Ser Tyr Tyr Trp
    210                 215                 220

Ala Leu Arg Lys Pro Asp Asp Leu Pro Ala Phe Pro Leu Phe Ser Ala
225                 230                 235                 240

Phe Gly Arg Ala Leu Arg Tyr His Thr Gly Ser Leu Ala Phe Gly Ala
                245                 250                 255

Leu Ile Leu Ala Ile Val Gln Ile Ile Arg Val Ile Leu Glu Tyr Leu
            260                 265                 270

Asp Gln Arg Leu Lys Ala Ala Glu Asn Lys Phe Ala Lys Cys Leu Met
        275                 280                 285

Thr Cys Leu Lys Cys Cys Phe Trp Cys Leu Glu Lys Phe Ile Lys Phe
    290                 295                 300

Leu Asn Arg Asn Ala Tyr Ile Met Ile Ala Ile Tyr Gly Thr Asn Phe
305                 310                 315                 320

Cys Thr Ser Ala Arg Asn Ala Phe Phe Leu Leu Met Arg Asn Ile Ile
                325                 330                 335

Arg Val Ala Val Leu Asp Lys Val Thr Asp Phe Leu Phe Leu Leu Gly
```

```
<210> 711
<211> 96
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (25)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (77)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (79)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 711
Ala Ala Arg Glu Gly Ala Pro Pro Pro Cys Pro Thr Ser Ala Ile Gly
 1               5                  10                  15

Arg Ala Ser Leu Ser Leu Arg Asp Xaa Gly Arg Gly Leu Arg Asp Ala
            20                  25                  30

Arg Arg Glu Lys Arg Arg Gly Val Arg Gly Gln Asp Gly Gly Asp Tyr
        35                  40                  45

Gly Trp Cys Gly Pro Ala Arg Gly Arg Gly Val Ala Ala Lys Gly Thr
    50                  55                  60

Ala Glu Gly Pro Thr Gly Glu Asn Arg Ala Gln Gly Xaa Lys Xaa Gly
65                  70                  75                  80

Val Arg Val Ala Val Glu Ala Ser Ser Val Arg Gly Pro Gly Arg Ala
                85                  90                  95




<210> 712
<211> 453
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (432)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 712
Met Arg Met Ala Ser Ile Met Val Trp Val Met Ile Ile Met Val Ile
 1               5                  10                  15

Leu Val Leu Gly Tyr Gly Ile Phe His Cys Tyr Met Glu Tyr Ser Arg
```

```
            100                 105                 110

Leu Asp Ile Ala Cys Trp Ile His His Lys Tyr Asn Ser Gly Lys Ser
        115                 120                 125

Ser Thr Tyr Val Lys Asn Gly Thr Ser Phe Asp Ile His Tyr Gly Ser
    130                 135                 140

Gly Ser Leu Ser Gly Tyr Leu Ser Gln Asp Thr Val Ser Val Pro Cys
145                 150                 155                 160

Lys Ser Gly Leu Ser Ser Leu Ala Gly Val Lys Val Glu Arg Gln Thr
                165                 170                 175

Phe Gly Glu Ala Thr Lys Gln Pro Gly Ile Thr Phe Ile Ala Ala Lys
            180                 185                 190

Phe Asp Gly Ile Leu Gly Met Ala Tyr Pro Arg Ile Ser Val Asn Asn
        195                 200                 205

Val Leu Pro Val Phe Asp Asn Leu Met Gln Gln Lys Leu Val Glu Lys
    210                 215                 220

Asn Ile Phe Ser Phe Tyr Leu Asn Arg Asp Pro Gly Ala Gln Pro Gly
225                 230                 235                 240

Gly Glu Leu Met Leu Gly Gly Thr Asp Ser Lys Tyr Tyr Lys Gly Pro
                245                 250                 255

Leu Ser Tyr Leu Asn Val Thr Arg Lys Ala Tyr Trp Gln Val His Met
            260                 265                 270

Glu Gln Val Asp Val Gly Ser Ser Leu Thr Leu Cys Lys Gly Gly Cys
        275                 280                 285

Glu Ala Ile Val Asp Thr Gly Thr Ser Leu Ile Val Gly Pro Val Asp
    290                 295                 300

Glu Val Arg Glu Leu Gln Lys Ala Ile Gly Ala Val Pro Leu Ile Gln
305                 310                 315                 320

Gly Glu Tyr Met Ile Pro Cys Glu Lys Val Ser Thr Leu Pro Glu Val
                325                 330                 335

Thr Leu Thr Leu Gly Gly Lys Pro Tyr Lys Leu Ser Ser Glu Asp Tyr
            340                 345                 350

Thr Leu Lys Val Ser Gln Gly Gly Lys Ser Ile Cys Leu Ser Gly Phe
        355                 360                 365

Met Gly Met Asp Ile Pro Pro Pro Gly Gly Pro Leu Trp Ile Leu Gly
    370                 375                 380

Asp Val Phe Ile Gly Arg Tyr Tyr Thr Val Phe Asp Arg Asp Gln Asn
385                 390                 395                 400

Arg Val Gly Leu Ala Glu Ala Thr Arg Leu
                405                 410
```

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<222> (86)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (100)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 709
Met Gln Pro Pro Ser Leu Leu Leu Leu Val Leu Gly Leu Leu Ala Ala
 1               5                  10                  15

Pro Ala Ala Ala Leu Val Arg Ile Pro Leu His Lys Phe Thr Ser Val
            20                  25                  30

Arg Arg Thr Met Ser Glu Leu Gly Gly Pro Val Glu Asp Leu Ile Ala
        35                  40                  45

Arg Xaa Pro Ile Ser Lys Tyr Ala Gln Gly Val Pro Ser Val Ala Gly
    50                  55                  60

Gly Pro Val Pro Glu Xaa Leu Lys Glu Thr Thr Trp Asn Ala Gln Ile
65                  70                  75                  80

Leu Arg Gly Lys Phe Xaa His Pro Gly Thr Pro Pro Arg Lys Leu Leu
                85                  90                  95

Pro Pro Val Xaa Pro Phe Glu Lys Arg Gly Ser Phe Pro Thr Leu Leu
            100                 105                 110

Gly Ser Pro
        115


<210> 710
<211> 410
<212> PRT
<213> Homo sapiens

<400> 710
Met Gln Pro Pro Ser Leu Leu Leu Leu Val Leu Gly Leu Leu Ala Ala
 1               5                  10                  15

Pro Ala Ala Ala Leu Val Arg Ile Pro Leu His Lys Phe Thr Ser Val
            20                  25                  30

Arg Arg Thr Met Ser Glu Leu Gly Gly Pro Val Glu Asp Leu Ile Ala
        35                  40                  45

Arg Gly Pro Ile Ser Lys Tyr Ala Gln Gly Val Pro Ser Val Ala Gly
    50                  55                  60

Gly Pro Val Pro Glu Val Leu Arg Asn Tyr Met Asp Ala Gln Tyr Tyr
65                  70                  75                  80

Gly Glu Ile Gly Ile Gly Thr Pro Pro Gln Cys Phe Thr Val Val Phe
                85                  90                  95

Asp Thr Gly Ser Ser Asn Leu Trp Val Pro Ser Ile His Cys Lys Leu
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```
<210> 708
<211> 92
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (43)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (69)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (70)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 708
Leu Val Val Leu Gly Val Cys Ala Ala Gln His Glu Leu Thr Pro Arg
 1               5                  10                  15

Leu Arg Ala Gly Val Pro Val Gln Val Glu Arg Glu Asp Val Leu Leu
             20                  25                  30

His Gln Leu Leu Leu His Gln Val Ile Lys Xaa Gly Lys His Ile Val
         35                  40                  45

Asp Arg Asp Ala Gly Val Gly His Ala Gln Asp Ala Val Glu Leu Gly
     50                  55                  60

Arg Asp Glu Gly Xaa Xaa Arg Leu Leu Gly Gly Phe Pro Glu Arg Leu
 65                  70                  75                  80

Pro Leu His Leu Asp Ala Ser Gln Ala Arg Gln Thr
                 85                  90


<210> 709
<211> 115
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (50)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (70)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
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```
Gly Pro Ile Pro Glu Val Leu Lys Asn Tyr Met Asp Ala Gln Tyr Tyr
 65                  70                  75                  80

Gly Glu Ile Gly Ile Gly Thr Pro Pro Gln Cys Phe Thr Val Val Phe
                 85                  90                  95

Asp Thr Gly Ser Ser Asn Leu Trp Val Pro Ser Ile His Cys Lys Leu
            100                 105                 110

Leu Asp Ile Ala Cys Trp Ile His His Lys Tyr Asn Ser Asp Lys Ser
        115                 120                 125

Ser Thr Tyr Val Lys Asn Gly Thr Ser Phe Asp Ile His Tyr Gly Ser
    130                 135                 140

Gly Ser Leu Ser Gly Tyr Leu Ser Gln Asp Thr Val Ser Val Pro Cys
145                 150                 155                 160

Gln Ser Ala Ser Ser Ala Ser Ala Leu Gly Gly Val Lys Val Glu Arg
                165                 170                 175

Gln Val Phe Gly Glu Ala Thr Lys Gln Pro Gly Ile Thr Phe Ile Ala
            180                 185                 190

Ala Lys Phe Asp Gly Ile Leu Gly Met Ala Tyr Pro Arg Ile Ser Val
        195                 200                 205

Asn Asn Val Leu Pro Val Phe Asp Asn Leu Met Gln Gln Lys Leu Val
    210                 215                 220

Asp Gln Asn Ile Phe Ser Phe Tyr Leu Ser Arg Asp Pro Asp Ala Gln
225                 230                 235                 240

Pro Gly Gly Glu Leu Met Leu Gly Gly Thr Asp Ser Lys Tyr Tyr Lys
                245                 250                 255

Gly Ser Leu Ser Tyr Leu Asn Val Thr Arg Lys Ala Tyr Trp Gln Val
            260                 265                 270

His Leu Asp Gln Val Glu Val Ala Ser Gly Leu Thr Leu Cys Lys Glu
        275                 280                 285

Gly Cys Glu Ala Ile Val Asp Thr Gly Thr Ser Leu Met Val Gly Pro
    290                 295                 300

Val Asp Glu Val Arg Xaa Leu Gln Lys Ala Ile Gly Ala Val Pro Leu
305                 310                 315                 320

Ile Gln Gly Glu Tyr Met Ile Pro Cys Glu Lys Val Ser Thr Leu Pro
                325                 330                 335

Ala Ile Thr Leu Lys Leu Gly Gly Lys Gly Tyr Lys Leu Ser Pro Glu
            340                 345                 350

Asp Tyr Thr Leu Lys Val Ser Gln Ala Gly Lys Thr Xaa Cys Leu Ser
        355                 360                 365
```

```
Leu Asn Gln Asp Arg Lys Thr Cys Ser Ala Gln Asp Gln Cys Ala Phe
            340                 345                 350

Gly Thr His Gly Cys Gln His Ile Cys Val Asn Asp Arg Asp Gly Ser
        355                 360                 365

His His Cys Glu Cys Tyr Glu Gly Tyr Thr Leu Asn Ala Asp Asn Lys
    370                 375                 380

Thr Cys Ser Val Arg Ser Glu Cys Ala Gly Gly Ser His Gly Cys Gln
385                 390                 395                 400

His Leu Cys Val Asp Asp Gly Pro Ala Ala Tyr His Cys Asp Cys Phe
                405                 410                 415

Pro Gly Tyr Thr Leu Thr Glu Asp Arg Arg Thr Cys Ala Ala Ile Glu
            420                 425                 430

Glu Ala Arg Arg Leu Val Ser Thr Glu Asp Ala Cys Gly Cys Glu Ala
        435                 440                 445

Thr Leu Ala Phe Gln Glu Arg Ala Ser Ser Tyr Leu Gln Arg Leu Asn
    450                 455                 460

Ala Lys Leu Asp Asp Ile Leu Gly Lys Leu Gln Ala Asp Ala Tyr Gly
465                 470                 475                 480

Gln Ile His Arg




<210> 707
<211> 368
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (310)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (365)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 707
Met Gln Pro Ser Ser Leu Leu Pro Leu Ala Leu Cys Leu Leu Ala Ala
 1               5                  10                  15

Pro Ala Ser Ala Leu Val Arg Ile Pro Leu His Lys Phe Thr Ser Ile
            20                  25                  30

Arg Arg Thr Met Ser Glu Val Gly Gly Ser Val Glu Asp Leu Ile Ala
        35                  40                  45

Lys Gly Pro Val Ser Lys Tyr Ser Gln Ala Val Pro Ala Val Thr Glu
    50                  55                  60
```

```
Leu Leu Leu Pro Pro Thr Pro Ala Ala Pro Gly Pro Leu Ala Arg Pro
             20                  25                  30

Gly Leu Arg Arg Leu Gly Thr Arg Gly Pro Gly Gly Ser Pro Gly Arg
         35                  40                  45

Arg Pro Gly Ser Ala Val Pro Thr Arg Ala Pro Tyr Ser Gly Ala Gly
     50                  55                  60

Gln Pro Gly Gly Ala Arg Gly Ala Gly Val Cys Arg Ser Arg Pro Leu
 65                  70                  75                  80

Asp Leu Val Phe Ile Ile Asp Ser Ser Arg Ser Val Arg Pro Leu Glu
                 85                  90                  95

Phe Thr Lys Val Lys Thr Phe Val Ser Gln Ile Ile Asp Thr Leu Asp
            100                 105                 110

Ile Gly Ala Ala Asp Thr Arg Val Ala Val Val Asn Tyr Ala Ser Thr
        115                 120                 125

Val Lys Ile Glu Phe His Leu Gln Thr His Ser Asp Lys Gln Ser Leu
    130                 135                 140

Lys Gln Ala Val Ala Arg Ile Thr Pro Leu Ser Thr Gly Thr Met Ser
145                 150                 155                 160

Gly Leu Ala Ile Gln Thr Ala Met Asp Glu Ala Phe Thr Val Glu Ala
                165                 170                 175

Gly Ala Arg Gly Pro Thr Ser Asn Ile Pro Lys Val Ala Ile Ile Val
            180                 185                 190

Thr Asp Gly Arg Pro Gln Asp Gln Val Asn Glu Val Ala Ala Arg Ala
        195                 200                 205

Arg Ala Ser Gly Ile Glu Leu Tyr Ala Val Gly Val Asp Arg Ala Asp
    210                 215                 220

Met Glu Ser Leu Lys Met Met Ala Ser Glu Pro Leu Asp Glu His Val
225                 230                 235                 240

Phe Tyr Val Glu Thr Tyr Gly Val Ile Glu Lys Leu Ser Ser Arg Phe
                245                 250                 255

Gln Glu Thr Phe Cys Ala Leu Asp Pro Cys Val Leu Gly Thr His Arg
            260                 265                 270

Cys Gln His Val Cys Val Ser Asp Gly Glu Gly Lys His His Cys Glu
        275                 280                 285

Cys Ser Gln Gly Tyr Ser Leu Asn Ala Asp Gln Lys Thr Cys Ser Ala
    290                 295                 300

Ile Asp Lys Cys Ala Leu Asn Thr His Gly Cys Glu His Ile Cys Val
305                 310                 315                 320

Asn Asp Arg Thr Gly Ser Tyr His Cys Glu Cys Tyr Glu Gly Tyr Thr
                325                 330                 335
```

```
Leu Leu Leu Pro Pro Thr Pro Ala Ala Pro Gly Pro Leu Ala Arg Pro
             20                  25                  30

Gly Leu Arg Arg Leu Gly Thr Arg Gly Pro Gly Gly Xaa Pro Xaa Arg
         35                  40                  45

Arg Pro Xaa Ser Ala Val Pro Thr Arg Ala Pro Tyr Ser Gly Ala Gly
     50                  55                  60

Gln Pro Gly Gly Ala Arg Gly Ala Gly Val Cys Arg Ser Arg Pro Leu
 65                  70                  75                  80

Asp Leu Val Phe Ile Ile Asp Ser Ser Arg Ser Val Arg Pro Leu Glu
                 85                  90                  95

Phe Thr Lys Val Lys Thr Phe Val Ser Gln Ile Ile Asp Thr Leu Asp
            100                 105                 110

Ile Gly Ala Ala Asp Thr Arg Val Ala Val Val Asn Tyr Ala Ser Thr
        115                 120                 125

Val Lys Ile Glu Phe Xaa Leu Gln Thr His Ser Asp Lys Gln Ser Leu
    130                 135                 140

Lys Gln Ala Val Ala Arg Ile Thr Pro Leu Ser Thr Gly Thr Met Ser
145                 150                 155                 160

Gly Leu Ala Ile Gln Thr Ala Met Asp Glu Ala Phe Thr Val Glu Ala
                165                 170                 175

Gly Ala Arg Gly Pro Thr Xaa Asn Ile Pro Lys Val Ala Ile Ile Val
            180                 185                 190

Thr Asp Gly Arg Pro Gln Asp Gln Val Asn Glu Val Ala Ala Arg Ala
        195                 200                 205

Arg Ala Ser Gly Ile Glu Leu Tyr Ala Val Gly Val Asp Xaa Ala Xaa
    210                 215                 220

Met Glu Ser Leu Gln Asp Glu Trp Pro Ala Lys Pro Leu Asp Glu His
225                 230                 235                 240

Val Phe Tyr Val Glu Thr Tyr Gly Val Ile Glu Lys Pro Ser Xaa Arg
                245                 250                 255

Phe Gln Glu Thr Leu Leu Arg Ser Trp Asn
            260                 265


<210> 706
<211> 484
<212> PRT
<213> Homo sapiens

<400> 706
Met Pro Arg His Leu Ser Gly Leu Leu Leu Leu Leu Trp Pro Leu Leu
  1               5                  10                  15
```

<210> 704
<211> 5
<212> PRT
<213> Homo sapiens

<400> 704
Val Leu Leu Ile Leu
1 5

<210> 705
<211> 266
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (45)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (47)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (51)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (134)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (183)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (222)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (224)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (255)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 705
Met Pro Arg His Leu Ser Gly Leu Leu Leu Leu Leu Trp Pro Leu Leu
1 5 10 15

```
Gly Val Val Gly Ile His Gly Asp Ser Pro Tyr Tyr Phe Leu Thr Ser
145                 150                 155                 160

Ala Phe Leu Thr Ala Ala Ile Ile Leu Leu His Thr Phe Trp Gly Val
                165                 170                 175

Val Phe Phe Asp Ala Cys Glu Arg Arg Arg Tyr Trp Ala Leu Gly Leu
            180                 185                 190

Val Val Gly Ser His Leu Leu Thr Ser Gly Leu Thr Phe Leu Asn Pro
        195                 200                 205

Trp Tyr Glu Ala Ser Leu Leu Pro Ser Met Gln Ser Leu Xaa Xaa Trp
    210                 215                 220

Gly Ser Gly Pro Ser Ser Gln Leu Glu Gly Pro Xaa Lys Tyr Ser Ala
225                 230                 235                 240

Gln Xaa Leu Xaa Lys Asp
                245
```

```
<210> 702
<211> 5
<212> PRT
<213> Homo sapiens

<400> 702
Gly Glu Ile Phe Leu
 1               5
```

```
<210> 703
<211> 84
<212> PRT
<213> Homo sapiens

<400> 703
Lys Met His Phe Asn Lys Asn Lys Ser Ile Leu Lys Ser Phe Ser Phe
 1               5                   10                  15

Val Arg Gly Asn Met Asn Glu Ile His Ser Tyr Leu Lys Thr Glu Tyr
             20                  25                  30

Phe Thr Ala Lys Thr Leu Asn Ile Ser Arg Ala Tyr His Ile Leu Asn
         35                  40                  45

Thr Leu Trp Ser Cys Ser Tyr Phe Asn Ile Pro Gly Ser Gly Gly Gln
     50                  55                  60

Leu Ala Cys Leu Trp Leu Arg Ile Cys Phe His Ala Cys Phe Leu Ser
 65                  70                  75                  80

Phe Phe Tyr Leu
```

```
<210> 701
<211> 246
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (222)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (223)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (236)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (242)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (244)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 701
Met Gly Ala Ala Val Phe Phe Gly Cys Thr Phe Val Ala Phe Gly Pro
1               5                   10                  15

Ala Phe Ala Leu Phe Leu Ile Thr Val Ala Gly Asp Pro Leu Arg Val
            20                  25                  30

Ile Ile Leu Val Ala Gly Ala Phe Phe Trp Leu Val Ser Leu Leu Leu
        35                  40                  45

Ala Ser Val Val Trp Phe Ile Leu Val His Val Thr Asp Arg Ser Asp
    50                  55                  60

Ala Arg Leu Gln Tyr Gly Leu Leu Ile Phe Gly Ala Ala Val Ser Val
65                  70                  75                  80

Leu Leu Gln Glu Val Phe Arg Phe Ala Tyr Tyr Lys Leu Leu Lys Lys
                85                  90                  95

Ala Asp Glu Gly Leu Ala Ser Leu Ser Glu Asp Gly Arg Ser Pro Ile
            100                 105                 110

Ser Ile Arg Gln Met Ala Tyr Val Ser Gly Leu Ser Phe Gly Ile Ile
        115                 120                 125

Ser Gly Val Phe Ser Val Ile Asn Ile Leu Ala Asp Ala Leu Gly Pro
    130                 135                 140
```

```
        35                  40                  45

Glu Ile Arg Ser Asp Arg
    50



<210> 700
<211> 240
<212> PRT
<213> Homo sapiens

<400> 700
Met Ser Arg Tyr Leu Leu Pro Leu Ser Ala Leu Gly Thr Val Ala Gly
 1               5                  10                  15

Ala Ala Val Leu Leu Lys Asp Tyr Val Thr Gly Gly Ala Cys Pro Ser
            20                  25                  30

Lys Ala Thr Ile Pro Gly Lys Thr Val Ile Val Thr Gly Ala Asn Thr
        35                  40                  45

Gly Ile Gly Lys Gln Thr Ala Leu Glu Leu Ala Arg Arg Gly Gly Asn
    50                  55                  60

Ile Ile Leu Ala Cys Arg Asp Met Glu Lys Cys Glu Ala Ala Ala Lys
65                  70                  75                  80

Asp Ile Arg Gly Glu Thr Leu Asn His His Val Asn Ala Arg His Leu
                85                  90                  95

Asp Leu Ala Ser Leu Lys Ser Ile Arg Glu Phe Ala Ala Lys Ile Ile
            100                 105                 110

Glu Glu Glu Glu Arg Val Asp Ile Leu Ile Asn Asn Ala Gly Val Met
        115                 120                 125

Arg Cys Pro His Trp Thr Thr Glu Asp Gly Phe Glu Met Gln Phe Gly
    130                 135                 140

Val Asn His Leu Gly His Phe Leu Leu Thr Asn Leu Leu Leu Asp Lys
145                 150                 155                 160

Leu Lys Ala Ser Ala Pro Ser Arg Ile Ile Asn Leu Ser Ser Leu Ala
                165                 170                 175

His Val Ala Gly His Ile Asp Phe Asp Asp Leu Asn Trp Gln Thr Arg
            180                 185                 190

Lys Tyr Asn Thr Lys Ala Ala Tyr Cys Gln Ser Lys Leu Ala Ile Val
        195                 200                 205

Leu Phe Thr Lys Glu Leu Ser Arg Arg Leu Gln Gly Thr Gly Ala Leu
    210                 215                 220

Gly Ser Ala Ser Leu Leu Leu Tyr Ser Glu Pro Arg Ala Ala Phe Pro
225                 230                 235                 240
```

```
His Gly Leu Asn Arg Thr Gly Phe Tyr Arg His Ser Gly Cys Glu Arg
     50                  55                  60

Arg Ser Asn Leu Ser Leu Ala Ser Leu Thr Phe Gln Arg Gln Ala Ser
 65                  70                  75                  80

Leu Glu Gln Ala Asn Ser Phe Pro Arg Lys Ser Ser Phe Arg Ala Ser
                 85                  90                  95

Thr Phe His Pro Phe Leu Gln Cys Pro Pro Leu Pro Val Glu Thr Glu
            100                 105                 110

Ser Gln Leu Val Thr Leu Pro Ser Ser Asn Ile Ser Pro Thr Ile Ser
        115                 120                 125

Thr Ser His Ser Leu Ser Arg Pro Asp Tyr Trp Ser Ser Asn Ser Leu
    130                 135                 140

Arg Val Gly Leu Ser Thr Pro Pro Pro Pro Ala Tyr Glu Ser Ile Ile
145                 150                 155                 160

Lys Ala Phe Pro Asp Ser
                165


<210> 698
<211> 61
<212> PRT
<213> Homo sapiens

<400> 698
Met Val Leu Ile Asn Ser Gly Lys Pro Gly Ser Lys Cys Cys Trp Val
 1               5                  10                  15

Phe Arg Pro Gly Leu Ser Ala Pro Cys Ser Ala Leu Trp Trp Gly Cys
             20                  25                  30

Pro Gly Leu Ala Leu Ser Leu Ser Gly Pro Gln Val Arg Leu Phe Thr
         35                  40                  45

Arg Arg Tyr Glu Thr Thr Leu Pro Asn Thr Gly Pro Trp
     50                  55                  60


<210> 699
<211> 54
<212> PRT
<213> Homo sapiens

<400> 699
Met Leu Leu Gly Leu Gln Ala Arg Leu Val Ser Ser Leu Leu Cys Ser
 1               5                  10                  15

Val Val Gly Cys Leu Gly Cys Ser Phe Phe Cys Pro Arg Arg Tyr Tyr
             20                  25                  30

Lys Lys Leu Asn Leu His Lys Ala Cys Met Glu Asn Ser Val Ser Ala
```

```
Asn Asn Val Thr Thr Thr Val Lys Lys Arg
            20                  25


<210> 696
<211> 166
<212> PRT
<213> Homo sapiens

<400> 696
Met Ser Phe Thr Val Ser Met Ala Ile Gly Leu Val Leu Gly Gly Phe
1               5                   10                  15

Ile Trp Ala Val Phe Ile Cys Leu Ser Arg Arg Arg Arg Ala Ser Ala
            20                  25                  30

Pro Ile Ser Gln Trp Ser Ser Ser Arg Arg Ser Arg Ser Ser Tyr Thr
        35                  40                  45

His Gly Leu Asn Arg Thr Gly Phe Tyr Arg His Ser Gly Cys Glu Arg
    50                  55                  60

Arg Ser Asn Leu Ser Leu Ala Ser Leu Thr Phe Gln Arg Gln Ala Ser
65                  70                  75                  80

Leu Glu Gln Ala Asn Ser Phe Pro Arg Lys Ser Ser Phe Arg Ala Ser
                85                  90                  95

Thr Phe His Pro Phe Leu Gln Cys Pro Pro Leu Pro Val Glu Thr Glu
            100                 105                 110

Ser Gln Leu Val Thr Leu Pro Ser Ser Asn Ile Ser Pro Thr Ile Ser
        115                 120                 125

Thr Ser His Ser Leu Ser Arg Pro Asp Tyr Trp Ser Ser Asn Ser Leu
    130                 135                 140

Arg Val Gly Leu Ser Thr Pro Pro Pro Pro Ala Tyr Glu Ser Ile Ile
145                 150                 155                 160

Lys Ala Phe Pro Asp Ser
                165


<210> 697
<211> 166
<212> PRT
<213> Homo sapiens

<400> 697
Met Ser Phe Thr Val Ser Met Ala Ile Gly Leu Val Leu Gly Gly Phe
1               5                   10                  15

Ile Trp Ala Val Phe Ile Cys Leu Ser Arg Arg Arg Arg Ala Ser Ala
            20                  25                  30

Pro Ile Ser Gln Trp Ser Ser Ser Arg Arg Ser Arg Ser Ser Tyr Thr
        35                  40                  45
```

```
Pro Val Ser Glu His Thr Cys Val Val Pro Glu Pro Leu Thr Asn Pro
        115                 120                 125

Leu Cys Asn Pro Ala His Ala Phe Pro Ile Leu Lys Gly Pro Ala His
    130                 135                 140

Arg Pro Ala His Val Phe Pro Leu Pro Leu Leu Cys Pro Tyr Leu Val
145                 150                 155                 160

Gly Ser Cys Pro Phe Trp Ala Leu Val Trp His Phe Thr His Lys Cys
                165                 170                 175

Val Leu Trp Val Val Ser Gly Pro Pro Pro Ala Val Arg Gly
            180                 185                 190


<210> 693
<211> 38
<212> PRT
<213> Homo sapiens

<400> 693
Met Trp Leu Ser Pro Val Pro Gly Val Cys Ala Ala Val Leu Ala Leu
  1               5                  10                  15

Ser Phe Trp Ile Ala Lys Phe Pro Gly Glu Gly Thr Ala Ile Ala Lys
             20                  25                  30

Ala Leu Gly Arg Leu Lys
         35


<210> 694
<211> 38
<212> PRT
<213> Homo sapiens

<400> 694
Met Trp Leu Ser Pro Val Pro Gly Val Cys Ala Ala Val Leu Ala Leu
  1               5                  10                  15

Ser Phe Trp Ile Ala Lys Phe Pro Gly Glu Gly Thr Ala Ile Ala Lys
             20                  25                  30

Ala Leu Gly Arg Leu Lys
         35


<210> 695
<211> 26
<212> PRT
<213> Homo sapiens

<400> 695
Gly Leu Phe Leu Gly Gln Met Asn Trp Ile Phe Ser Cys Cys Phe Ser
  1               5                  10                  15
```

```
<213> Homo sapiens

<220>
<221> SITE
<222> (63)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (73)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 691
Met Pro Val Gly Ser Leu Pro His Pro Gly Cys Leu Trp Ala Ala Phe
 1               5                  10                  15

Leu Thr Leu Asp Ala Cys Gly Leu Pro Ser Ser Pro Trp Met Pro Val
            20                  25                  30

Gly Ser Leu Pro His Pro Gly Cys Leu Trp Ala Ala Phe Leu Thr Leu
        35                  40                  45

Asp Ala Cys Gly Gln Pro Ser Ser Pro Trp Met Pro Val Gly Xaa Leu
    50                  55                  60

Leu Thr Leu Asp Ala Cys Gly Gln Xaa Ser Ser Pro Gly Cys Leu Trp
65                  70                  75                  80

Ala Ala Phe Leu Thr Trp Ser Leu
                85


<210> 692
<211> 190
<212> PRT
<213> Homo sapiens

<400> 692
Met Pro Val Gly Ser Leu Pro His Pro Gly Cys Leu Trp Ala Ala Phe
 1               5                  10                  15

Leu Thr Leu Asp Ala Cys Gly Leu Pro Ser Ser Pro Trp Met Pro Val
            20                  25                  30

Gly Ser Leu Pro His Pro Gly Cys Leu Trp Ala Ala Phe Leu Thr Leu
        35                  40                  45

Asp Ala Cys Gly Gln Pro Ser Ser Pro Trp Met Pro Val Gly Cys Leu
    50                  55                  60

Pro His Pro Gly Cys Leu Trp Ala Ala Phe Leu Thr Leu Asp Ala Cys
65                  70                  75                  80

Gly Gln Pro Ser Ser Pro Trp Met Pro Val Thr Trp Phe Pro Trp Gly
                85                  90                  95

Leu Pro Lys Leu Arg Asp Pro Lys Pro Pro Ser Asn Leu Met Thr Arg
            100                 105                 110
```

```
             20                  25                  30

Asp Thr Val Trp Asp Leu Asn Met Tyr Lys Ser Glu Tyr Phe Ile Lys
         35                  40                  45

Gln Ile Leu Leu Asn Leu Gly Val Ile Phe Phe Phe Thr Leu Ser Leu
     50                  55                  60

Ile Thr Cys Ile Phe Leu Ile Ile Ser Leu Trp Arg His Asn Arg Gln
 65                  70                  75                  80

Met Gln Ser Asn Val Thr Gly Leu Arg Asp Ser Asn Thr Glu Ala His
                 85                  90                  95

Val Lys Ala Met Lys Val Leu Ile Ser Phe Ile Ile Leu Phe Ile Leu
            100                 105                 110

Tyr Phe Ile Gly Met Ala Ile Glu Ile Ser Cys Phe Thr Val Arg Glu
        115                 120                 125

Asn Lys Leu Leu Leu Met Phe Gly Met Thr Thr Thr Ala Ile Tyr Pro
    130                 135                 140

Trp Gly His Ser Phe Ile Leu Ile Leu Gly Asn Ser Lys Leu Lys Gln
145                 150                 155                 160

Ala Ser Leu Arg Val Leu Gln Gln Leu Lys Cys Cys Glu Lys Arg Lys
                165                 170                 175

Asn Leu Arg Val Thr
            180


<210> 690
<211> 70
<212> PRT
<213> Homo sapiens

<400> 690
Ala Ala Met Arg Arg Trp Ala Ser Ser Ser Leu Glu Gly Glu Glu Leu
 1               5                   10                  15

Ser Thr Gln Arg Asp Leu Thr Arg Lys Val His Pro Pro Ser Thr Gln
             20                  25                  30

Glu Ala Pro Ala Asp Ser Met Cys Phe Arg Leu Cys Trp Pro Asn Gly
         35                  40                  45

Leu Cys Arg Asp Tyr Ser Ala Leu Pro Leu Trp Leu Gln Ser Asp His
     50                  55                  60

Arg Pro Ser Glu Ser Glu
 65                  70


<210> 691
<211> 88
<212> PRT
```

```
Gly Phe Ile Gln Ile Phe Ser Pro Asn Ile Tyr Ala Ser Gly Asn Leu
 65                  70                  75                  80

Ile Glu Tyr Ile Ser Tyr Phe Trp Val Ile Gly Asn Gln Ser Ser Met
                 85                  90                  95

Trp Phe Ala Thr Ser Leu Ser Ile Phe Tyr Phe Leu Lys Ile Ala Asn
            100                 105                 110

Phe Ser Asn Tyr Ile Phe Leu Trp Leu Lys Ser Arg Thr Asn Met Val
        115                 120                 125

Leu Pro Phe Met Ile Val Phe Leu Leu Ile Ser Ser Leu Leu Asn Phe
    130                 135                 140

Ala Tyr Ile Ala Lys Ile Leu Asn Asp Tyr Lys Met Lys Asn Asp Thr
145                 150                 155                 160

Val Trp Asp Leu Asn Met Tyr Lys Ser Glu Tyr Phe Ile Lys Gln Ile
                165                 170                 175

Leu Leu Asn Leu Gly Val Ile Phe Phe Phe Thr Leu Ser Leu Ile Thr
            180                 185                 190

Cys Ile Phe Leu Ile Ile Ser Leu Trp Arg His Asn Arg Gln Met Gln
        195                 200                 205

Ser Asn Val Thr Gly Leu Arg Asp Ser Asn Thr Glu Ala His Val Lys
    210                 215                 220

Ala Met Lys Val Leu Ile Ser Phe Ile Ile Leu Phe Ile Leu Tyr Phe
225                 230                 235                 240

Ile Gly Met Ala Ile Glu Ile Ser Xaa Phe Thr Val Arg Glu Asn Lys
                245                 250                 255

Leu Leu Leu Met Xaa Gly Met Thr Thr Thr Ala Ile Tyr Pro Trp Gly
            260                 265                 270

His Ser Phe Ile Leu Ile Leu Gly Asn Ser Lys Leu Lys Gln Ala Ser
        275                 280                 285

Leu Arg Val Leu Gln Gln Leu Lys Cys Cys Glu Lys Arg Lys Asn Leu
    290                 295                 300

Arg Val Thr
305


<210> 689
<211> 181
<212> PRT
<213> Homo sapiens

<400> 689
Met Val Leu Pro Phe Met Ile Val Phe Leu Leu Ile Ser Ser Leu Leu
 1               5                  10                  15

Asn Phe Ala Tyr Ile Ala Lys Ile Leu Asn Asp Tyr Lys Met Lys Asn
```

```
625                 630                 635                 640

Tyr Glu Asp Asp Ile Thr Phe
                645



<210> 687
<211> 49
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (48)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 687
Ile Ser Val Ile Phe Asn Asp Thr Val Lys Lys Thr Met Gln Glu Cys
  1               5                  10                  15

Ser Ala Met Lys Gln Ile Phe Lys Asp Leu Phe Thr Gly Phe Leu Ser
             20                  25                  30

Trp Asn Ile His Leu Phe Pro Arg Cys Leu Cys Asp Ser Glu Ile Xaa
        35                  40                  45

Pro



<210> 688
<211> 307
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (249)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (261)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 688
Met Leu Arg Val Val Glu Gly Ile Phe Ile Phe Val Val Val Ser Glu
  1               5                  10                  15

Ser Val Phe Gly Val Leu Gly Asn Gly Phe Ile Gly Leu Val Asn Cys
             20                  25                  30

Ile Asp Cys Ala Lys Asn Lys Leu Ser Thr Ile Gly Phe Ile Leu Thr
        35                  40                  45

Gly Leu Ala Ile Ser Arg Ile Phe Leu Ile Trp Ile Ile Ile Thr Asp
    50                  55                  60
```

```
305                 310                 315                 320

Leu Ser Gln Ser Glu Arg Tyr Leu Tyr Gly Ser Leu Ala Thr Leu Leu
                325                 330                 335

Ile Cys Leu Cys Ala Val Phe Gly Leu Leu Leu Leu Thr Cys Thr Gly
            340                 345                 350

Cys Arg Gly Val Thr His Tyr Ile Leu Gln Thr Phe Leu Ser Leu Ala
        355                 360                 365

Val Gly Ala Leu Thr Gly Asp Ala Val Leu His Leu Thr Pro Lys Val
    370                 375                 380

Leu Gly Leu His Thr His Ser Glu Glu Gly Leu Ser Pro Gln Pro Thr
385                 390                 395                 400

Trp Arg Leu Leu Ala Met Leu Ala Gly Leu Tyr Ala Phe Phe Leu Phe
                405                 410                 415

Glu Asn Leu Phe Asn Leu Leu Leu Pro Arg Asp Pro Glu Asp Leu Glu
            420                 425                 430

Asp Gly Pro Cys Gly His Ser Ser His Ser His Gly Gly His Ser His
        435                 440                 445

Gly Val Ser Leu Gln Leu Ala Pro Ser Glu Leu Arg Gln Pro Lys Pro
    450                 455                 460

Pro His Glu Gly Ser Arg Ala Asp Leu Val Ala Glu Glu Ser Pro Glu
465                 470                 475                 480

Leu Leu Asn Pro Glu Pro Arg Arg Leu Ser Pro Glu Leu Arg Leu Leu
                485                 490                 495

Pro Tyr Met Ile Thr Leu Gly Asp Ala Val His Asn Phe Ala Asp Gly
            500                 505                 510

Leu Ala Val Gly Ala Ala Phe Ala Ser Ser Trp Lys Thr Gly Leu Ala
        515                 520                 525

Thr Ser Leu Ala Val Phe Cys His Glu Leu Pro His Glu Leu Gly Asp
    530                 535                 540

Phe Ala Ala Leu Leu His Ala Gly Leu Ser Val Arg Gln Ala Leu Leu
545                 550                 555                 560

Leu Asn Leu Ala Ser Ala Leu Thr Ala Phe Ala Gly Leu Tyr Val Ala
                565                 570                 575

Leu Ala Val Gly Val Ser Glu Glu Ser Glu Ala Trp Ile Leu Ala Val
            580                 585                 590

Ala Thr Gly Leu Phe Leu Tyr Val Ala Leu Cys Asp Met Leu Pro Ala
        595                 600                 605

Met Leu Lys Val Arg Asp Pro Arg Pro Trp Leu Leu Phe Leu Leu His
    610                 615                 620

Asn Val Gly Leu Leu Gly Gly Trp Thr Val Leu Leu Leu Leu Ser Leu
```

```
<400> 686
Met Ala Ser Leu Val Ser Leu Glu Leu Gly Leu Leu Leu Ala Val Leu
 1               5                   10                  15

Val Val Thr Ala Thr Ala Ser Pro Pro Ala Gly Leu Leu Ser Leu Leu
             20                  25                  30

Thr Ser Gly Gln Gly Ala Leu Asp Gln Glu Ala Leu Gly Gly Leu Leu
         35                  40                  45

Asn Thr Leu Ala Asp Arg Val His Cys Ala Asn Gly Pro Cys Gly Lys
     50                  55                  60

Cys Leu Ser Val Glu Asp Ala Leu Gly Leu Gly Glu Pro Glu Gly Ser
 65                  70                  75                  80

Gly Leu Pro Pro Gly Pro Val Leu Glu Ala Arg Tyr Val Ala Arg Leu
                 85                  90                  95

Ser Ala Ala Ala Val Leu Tyr Leu Ser Asn Pro Glu Gly Thr Cys Glu
            100                 105                 110

Asp Ala Arg Ala Gly Leu Trp Ala Ser His Ala Asp His Leu Leu Ala
        115                 120                 125

Leu Leu Glu Ser Pro Lys Ala Leu Thr Pro Gly Leu Ser Trp Leu Leu
    130                 135                 140

Gln Arg Met Gln Ala Arg Ala Ala Gly Gln Thr Pro Lys Thr Ala Cys
145                 150                 155                 160

Val Asp Ile Pro Gln Leu Leu Glu Glu Ala Val Gly Ala Gly Ala Pro
                165                 170                 175

Gly Ser Ala Gly Gly Val Leu Ala Ala Leu Leu Asp His Val Arg Ser
            180                 185                 190

Gly Ser Cys Phe His Ala Leu Pro Ser Pro Gln Tyr Phe Val Asp Phe
        195                 200                 205

Val Phe Gln Gln His Ser Ser Glu Val Pro Met Thr Leu Ala Glu Leu
    210                 215                 220

Ser Ala Leu Met Gln Arg Leu Gly Val Gly Arg Glu Ala His Ser Asp
225                 230                 235                 240

His Ser His Arg His Arg Gly Ala Ser Ser Arg Asp Pro Val Pro Leu
                245                 250                 255

Ile Ser Ser Ser Asn Ser Ser Ser Val Trp Asp Thr Val Cys Leu Ser
            260                 265                 270

Ala Arg Asp Val Met Ala Ala Tyr Gly Leu Ser Glu Gln Ala Gly Val
        275                 280                 285

Thr Pro Glu Ala Trp Ala Gln Leu Ser Pro Ala Leu Leu Gln Gln Gln
    290                 295                 300

Leu Ser Gly Ala Cys Thr Ser Gln Ser Arg Pro Pro Val Gln Asp Gln
```

```
Val Asp Ile Pro Gln Leu Leu Xaa Xaa Ala Val Gly Xaa Gly Ala Pro
                165                 170                 175

Gly Ser Ala Xaa Gly Val Leu Ala Ala Leu Leu Asp His Val Xaa Ser
            180                 185                 190

Gly Ser Cys Phe His Ala Leu Pro Ser Pro Gln Tyr Phe Val Asp Phe
        195                 200                 205

Val Phe Gln Gln His Ser Ser Glu Val Pro Met Thr Leu Ala Glu Leu
    210                 215                 220

Ser Ala Leu Met Gln Arg Leu Gly Val Gly Arg Glu Ala His Ser Asp
225                 230                 235                 240

His Ser His Arg His Arg Gly Ala Ser Ser Arg Asp Pro Val Pro Leu
                245                 250                 255

Ile Ser Ser Ser Asn Ser Ser Ser Val Trp Asp Thr Val Cys Leu Ser
            260                 265                 270

Ala Arg Asp Val Met Ala Ala Tyr Gly Leu Ser Glu Gln Ala Gly Val
        275                 280                 285

Thr Pro Glu Ala Trp Ala Gln Leu Ser Pro Ala Leu Leu Gln Gln Gln
    290                 295                 300

Leu Ser Gly Ala Cys Thr Ser Gln Ser Arg Pro Pro Val Gln Asp Gln
305                 310                 315                 320

Leu Ser Gln Ser Glu Arg Tyr Leu Tyr Gly Ser Leu Ala Thr Leu Leu
                325                 330                 335

Ile Cys Leu Cys Ala Val Phe Gly Leu Leu Leu Leu Thr Cys Thr Gly
            340                 345                 350

Cys Arg Gly Val Thr His Tyr Ile Leu Gln Thr Phe Leu Ser Leu Ala
        355                 360                 365

Val Gly Ala Leu Thr Gly Asp Ala Val Leu His Leu Thr Pro Lys Val
    370                 375                 380

Leu Gly Leu His Thr His Ser Glu Glu Gly Leu Ser Pro Gln Pro Thr
385                 390                 395                 400

Trp Arg Leu Leu Ala Met Leu Ala Gly Leu Tyr Ala Phe Phe Leu Phe
                405                 410                 415

Glu Asn Leu Phe Asn Leu Leu Leu Pro Arg Asp Pro Glu Asp Leu Glu
            420                 425                 430

Asp Gly Pro Ala Ala Thr Ala Ala
        435                 440


<210> 686
<211> 647
<212> PRT
<213> Homo sapiens
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<211> 440
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (168)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
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<222> (169)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
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<223> Xaa equals any of the naturally occurring L-amino acids

<220>
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<222> (191)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 685
Met Ala Ser Leu Val Ser Leu Glu Leu Gly Leu Leu Leu Ala Val Leu
 1               5                   10                  15

Val Val Thr Ala Thr Ala Ser Pro Pro Ala Gly Leu Leu Ser Leu Leu
             20                  25                  30

Thr Ser Gly Gln Gly Ala Leu Asp Gln Glu Ala Leu Gly Gly Leu Leu
         35                  40                  45

Asn Thr Leu Ala Asp Arg Val His Cys Ala Asn Gly Pro Cys Gly Lys
     50                  55                  60

Cys Leu Ser Val Glu Asp Ala Leu Gly Leu Gly Glu Pro Glu Gly Ser
 65                  70                  75                  80

Gly Leu Pro Pro Gly Pro Val Leu Glu Ala Arg Tyr Val Ala Arg Leu
                 85                  90                  95

Ser Ala Ala Ala Val Leu Tyr Leu Ser Asn Pro Glu Gly Thr Cys Glu
            100                 105                 110

Asp Ala Arg Ala Gly Leu Trp Ala Ser His Ala Asp His Leu Leu Ala
        115                 120                 125

Leu Leu Glu Ser Pro Lys Ala Leu Thr Pro Gly Leu Ser Trp Leu Leu
    130                 135                 140

Gln Arg Met Gln Ala Arg Ala Ala Gly Gln Thr Pro Lys Thr Ala Cys
145                 150                 155                 160
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<213> Homo sapiens

<220>
<221> SITE
<222> (2)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (3)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (41)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 684
Asp Xaa Xaa Pro Gly Ala Tyr Ala Gly Phe Arg Pro Asn Ala Asn Arg
 1               5                  10                  15

Ile Ser Phe Pro Val Phe Arg Asn Asn Val Cys Pro Trp Pro Glu Ala
            20                  25                  30

Leu Arg Ser Ala Pro Lys Leu Leu Xaa Leu Asp Glu Pro Met Gly Ala
        35                  40                  45

Leu Asp Lys Lys Leu Arg Asp Arg Met Gln Leu Glu Val Val Asp Ile
    50                  55                  60

Leu Glu Arg Val Gly Val Thr Cys Val Met Val Thr His Asp Gln Glu
65                  70                  75                  80

Glu Ala Met Thr Met Ala Gly Arg Ile Ala Ile Met Asn Arg Gly Lys
                85                  90                  95

Phe Val Gln Ile Gly Glu Pro Glu Glu Ile Tyr Glu His Pro Thr Thr
            100                 105                 110

Arg Tyr Ser Ala Glu Phe Ile Gly Ser Val Asn Val Phe Glu Gly Val
        115                 120                 125

Leu Lys Glu Arg Gln Glu Asp Gly Leu Val Leu Asp Ser Pro Gly Leu
    130                 135                 140

Val His Pro Leu Lys Val Asp Ala Asp Ala Ser Val Val Asp Asn Val
145                 150                 155                 160

Pro Val His Val Ala Leu Arg Pro Glu Lys Ile Met Leu Cys Glu Glu
                165                 170                 175

Pro Pro Ala Asn Gly Cys Asn Phe Ala Val Gly Glu Val Ile His Ile
            180                 185                 190

Ala Tyr Leu Gly Asp Leu Ser Val Tyr His Val Arg Leu Lys
        195                 200                 205


<210> 685
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<211> 25
<212> PRT
<213> Homo sapiens

<400> 680
Met Val Gly Arg Cys Ser Ile Leu Ser Ser Thr Pro Gln Arg His Pro
 1               5                  10                  15

Ser Leu Ser Trp Glu Gly Leu Gly Gly
            20                  25



<210> 681
<211> 18
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (13)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 681
Met Gly Thr Gln Gly Cys Pro His Pro Ser Trp Leu Xaa Leu Leu Gly
 1               5                  10                  15

Leu Ser



<210> 682
<211> 30
<212> PRT
<213> Homo sapiens

<400> 682
Met Gly Thr Gln Gly Cys Pro His Pro Ser Trp Leu Leu Leu Leu Gly
 1               5                  10                  15

Leu Ser Trp Trp Gly Glu Gly Asp Gly Ala Val Gly Pro Cys
            20                  25                  30


<210> 683
<211> 10
<212> PRT
<213> Homo sapiens

<400> 683
Ser Leu Leu Glu Leu Gly Leu Gly Pro Leu
 1               5                  10


<210> 684
<211> 206
<212> PRT
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Gln Val Ser Leu Pro Thr Arg Leu Leu Gln Met Pro Gly Met Gly Leu
 1               5                   10                  15

Asp Ser Arg Phe Gln Ala Trp Xaa Pro Ser Pro Tyr Leu Gly Pro Gln
            20                  25                  30

Pro Arg Ala Pro Arg Pro Gly Leu Gln Pro Gly Pro Ser Leu Arg Gly
        35                  40                  45

Ala Glu Phe Arg Glu Ser Cys Pro Arg Ser Gln Lys Arg Gly Arg Glu
    50                  55                  60

Xaa Gly Arg Pro Cys Pro Gly Cys Arg Pro Gly Gly Trp Gly Leu Pro
65                  70                  75                  80

Ala Arg Leu Gly Gln Pro Gln Leu Gln Thr Gly Pro Gly
                85                  90



<210> 678
<211> 57
<212> PRT
<213> Homo sapiens

<400> 678
Met Pro Pro His Arg Gln Thr Asp Gly Gln Met Gly Leu Pro Ala Pro
 1               5                   10                  15

Ala Leu Trp Val Trp Gly Leu Leu Leu Ser Ser Ser Phe Gln Thr Leu
            20                  25                  30

Leu Pro Ala Phe Pro Lys Pro Pro Ala Leu Asn Leu Gly Cys Ser Thr
        35                  40                  45

Arg Pro Ile Pro Ser Phe Leu Lys Ile
    50                  55



<210> 679
<211> 25
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (13)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 679
Met Val Gly Arg Cys Ser Ile Leu Ser Ser Thr Pro Xaa Arg His Pro
 1               5                   10                  15

Ser Leu Ser Trp Glu Gly Leu Gly Gly
            20                  25


<210> 680
```

<400> 674
Met Leu Xaa Ser Asn Ser Phe Ser Pro Ser Leu Ser Xaa Tyr Leu Cys
1 5 10 15

Xaa Leu Xaa Phe Ser Leu Xaa Ser Ser Lys Ser Ser Lys
20 25

<210> 675
<211> 29
<212> PRT
<213> Homo sapiens

<400> 675
Met Leu Cys Ser Asn Ser Phe Ser Pro Ser Leu Ser Val Tyr Leu Cys
1 5 10 15

Ser Leu Cys Phe Ser Leu Val Ser Ser Lys Ser Ser Lys
20 25

<210> 676
<211> 57
<212> PRT
<213> Homo sapiens

<400> 676
Met Pro Pro His Arg Gln Thr Asp Gly Gln Met Gly Leu Pro Ala Pro
1 5 10 15

Ala Leu Trp Val Trp Gly Leu Leu Leu Ser Ser Ser Phe Gln Thr Leu
20 25 30

Leu Pro Ala Phe Pro Lys Pro Pro Ala Leu Asn Leu Gly Cys Ser Thr
35 40 45

Arg Pro Ile Pro Ser Phe Leu Lys Ile
50 55

<210> 677
<211> 93
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (24)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (65)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 677

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<400> 672
Leu Phe Ser Gly Trp Leu Val Xaa Leu Cys Gly Val
 1               5                   10



<210> 673
<211> 48
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (31)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 673
Met Gly Glu Thr Leu Val Ser Val Phe Leu Lys Pro Pro Ala Leu Thr
 1               5                   10                  15

Trp Leu Leu Arg Ala Ile Cys Leu Met Val Gln Thr Trp Ala Xaa Gly
            20                  25                  30

Gln Arg Ser Trp Pro Gln Ser Leu Ala Leu Pro Cys Tyr Leu Asn Arg
        35                  40                  45




<210> 674
<211> 29
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (3)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (13)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (17)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (19)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (23)
<223> Xaa equals any of the naturally occurring L-amino acids
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<221> SITE
<222> (4)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (11)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 670
Asn Leu Trp Xaa Ala His Phe Phe Leu Asn Xaa Ser Ser Ile Gln Ile
 1               5                   10                  15

Glu Tyr Pro Pro Leu Ser Lys Met Leu Glu Thr Pro Lys Gly Lys Gly
             20                  25                  30

Trp Phe Phe Gly Glu Phe Phe Phe Trp Val Phe Leu Phe Phe Leu Gly
         35                  40                  45

Phe Ala Phe Gly Phe Trp Asn Ser Leu Phe Val Leu Tyr Leu Phe Val
     50                  55                  60

Gly His Pro Lys Ser Glu Ile Cys Ser Lys Ile Gln Asn Val Lys Cys
 65                  70                  75                  80

Ser Ser Glu His Phe Leu
                 85



<210> 671
<211> 57
<212> PRT
<213> Homo sapiens

<400> 671
Met Gly Leu Leu Pro Gly Trp Leu Leu Leu Trp Ala Arg Leu Lys Cys
 1               5                   10                  15

Phe Cys Ala Val Gly Leu Gly Ser Leu Ala Ala Val Tyr Gly Arg Gly
             20                  25                  30

Pro Gly Leu Pro Gln Asp Gln Leu Asp Cys Val Leu Trp Asp Cys Gly
         35                  40                  45

Thr Leu Gly Leu Tyr Arg Gly Gln Phe
     50                  55



<210> 672
<211> 12
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (8)
<223> Xaa equals any of the naturally occurring L-amino acids
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Pro Ala Ala His Ala Gln Pro Ala Asn Lys Ala Thr Thr Val Ser Pro
             20                  25                  30

Thr Ala Ala Ala Phe Leu Ala Gln Phe Ala Thr Glu Gly Asn Asp Ser
         35                  40                  45

Val Ser Trp Ala Gln Phe Glu Ala Phe Arg Lys Gln Arg Tyr Ala Asp
     50                  55                  60

Thr Asp Arg Asn Gln Asp Gly His Val Asp Glu Gln Glu Tyr Val Asp
 65                  70                  75                  80

Glu Tyr Leu Gln Arg Phe Asp Val Arg Leu Ala Asp Ala Arg Ala Gly
                 85                  90                  95

His Leu Arg Gln Thr Asp Thr Arg Phe Lys Ala Leu Asp Arg Asp Gly
            100                 105                 110

Asn Gly Ala Ile Ser Arg Ala Glu Tyr Asp Ala Ala Gly Glu Arg Thr
        115                 120                 125

Trp Ala Gly Tyr Glu Arg Ser Gln Asn Ala Thr Gln Glu Thr Ala Ala
    130                 135                 140

Ala Ser Ser Arg Asp Pro Leu Lys Met Pro Thr Ser His Thr Ala Asn
145                 150                 155                 160

Gly Met Leu Asp Leu Tyr Asp Arg Asn Lys Asp Gly Ala Val Asp Arg
                165                 170                 175

Glu Glu Phe Asp Ala Val Arg Ala Ala Ser Phe Ala Ala Thr Asp Thr
            180                 185                 190

Asp Gly Asn Gly Thr Leu Ser Leu Ala Glu Tyr Thr Ala Glu Phe Glu
        195                 200                 205

Gly Arg Leu Asp Gln Gln Arg Gln Arg Val Arg Ala Asp Ala Glu Arg
    210                 215                 220

Gln Ala Arg Val Arg Phe Ala Ser Leu Asp Lys Asp Thr Asp Gly Arg
225                 230                 235                 240

Met Thr Phe Ala Glu Tyr Gln Leu Ser Gly Lys Arg Met Phe Asp Arg
                245                 250                 255

Ala Asp Ser Asn Gly Asp Gly Val Val Asp Ala Arg Asp Pro Glu Pro
            260                 265                 270

Val Ala Gly Ala His Ser Ala Asn Gly Asn Arg
        275                 280


<210> 670
<211> 86
<212> PRT
<213> Homo sapiens

<220>
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```
             20                  25                  30

Thr Ala Ala Ala Phe Leu Ala Gln Phe Ala Thr Glu Gly Asn Asp Ser
         35                  40                  45

Val Ser Trp Ala Gln Phe Glu Ala Phe Arg Lys Gln Arg Tyr Ala Asp
     50                  55                  60

Thr Asp Arg Asn Gln Asp Gly His Val Asp Glu Gln Glu Tyr Val Asp
 65                  70                  75                  80

Glu Tyr Leu Gln Arg Phe Asp Val Arg Leu Ala Asp Ala Arg Ala Gly
                 85                  90                  95

His Leu Arg Gln Thr Asp Thr Arg Phe Lys Ala Leu Asp Arg Asp Gly
            100                 105                 110

Asn Gly Ala Ile Ser Arg Ala Glu Tyr Asp Ala Ala Gly Glu Arg Thr
        115                 120                 125

Trp Ala Gly Tyr Glu Arg Ser Gln Asn Ala Thr Gln Glu Thr Ala Ala
    130                 135                 140

Ala Ser Ser Arg Asp Pro Leu Lys Met Pro Thr Ser His Thr Ala Asn
145                 150                 155                 160

Gly Met Leu Asp Leu Tyr Asp Arg Asn Lys Asp Gly Ala Xaa Asp Arg
                165                 170                 175

Glu Glu Phe Asp Ala Val Arg Ala Ala Ser Phe Ala Xaa Thr Asp Thr
            180                 185                 190

Asp Gly Asn Gly Thr Leu Ser Leu Ala Glu Tyr Thr Xaa Glu Phe Glu
        195                 200                 205

Gly Arg Leu Asp Gln Gln Arg Gln Arg Val Arg Ala Asp Ala Glu Arg
    210                 215                 220

Gln Ala Arg Val Arg Phe Ala Ser Leu Asp Lys Asp Thr Asp Gly Arg
225                 230                 235                 240

Met Thr Phe Ala Glu Tyr Gln Leu Ser Gly Lys Arg Met Phe Asp Arg
                245                 250                 255

Ala Asp Ser Asn Gly Asp Gly Val Val Asp Ala Arg Asp Pro Glu Pro
            260                 265                 270

Val Ala Gly Ala His Ser Ala Asn Gly Asn Arg
        275                 280


<210> 669
<211> 283
<212> PRT
<213> Homo sapiens

<400> 669
Met Lys Ile Val Pro Leu Thr Ala Ala Val Leu Ala Leu Val Leu Ala
 1               5                  10                  15
```

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<222> (113)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (121)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 667
Val Ala Gln Val Gln Val Pro Gly Gly His Ile Gly Leu Gly Tyr Leu
 1               5                   10                  15

Ala Arg Ile Asp Phe His Arg Arg Asp Gly Thr Gly Gly Ile Pro Ala
                 20                  25                  30

Arg Ile Asp Gly Gly Glu Ile Asp Val Ala Leu Leu Pro Gly Gln Ala
         35                  40                  45

Val Asp His Ile Met Ala Arg Ala Cys Gly Gly Glu His Leu Ala Glu
     50                  55                  60

Val Gly Arg Gly Thr Val Gln Gly Leu Leu Gly Arg Ala Val Leu Ala
 65                  70                  75                  80

Ala Gln Ala Arg Arg Ala Pro Pro Xaa Gln Pro Leu Pro Ala Thr Met
                 85                  90                  95

Gly Phe Trp Gly Trp Lys Xaa Xaa Pro Asn Arg Gly Leu Trp Phe Lys
            100                 105                 110

Xaa Trp Lys Pro Pro Phe Gly Ala Xaa Gly Val Pro
        115                 120



<210> 668
<211> 283
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (174)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (189)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (205)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 668
Met Lys Ile Val Pro Leu Thr Ala Ala Val Leu Ala Leu Val Leu Ala
 1               5                   10                  15

Pro Ala Ala His Ala Gln Pro Ala Asn Lys Ala Thr Thr Val Ser Pro
```

```
        35                  40                  45

Ser Ala Lys Leu Val Leu Asp Gln Ala Gly
    50                  55



<210> 665
<211> 2
<212> PRT
<213> Homo sapiens

<400> 665
Leu Glu
  1



<210> 666
<211> 58
<212> PRT
<213> Homo sapiens

<400> 666
Met Thr Leu Ser Val Leu Gln His Phe Phe Ile Cys Val Leu Leu Ile
  1               5                  10                  15

Leu Leu Leu Asp Thr Asn Leu Cys Arg Gln Ile Ser Ser His Ser Phe
             20                  25                  30

Glu Phe Ser Gly Asn Gln Pro Leu Val Phe Cys Cys Ile Ser Ser Ile
        35                  40                  45

Ser Ala Lys Leu Val Leu Asp Gln Ala Gly
    50                  55



<210> 667
<211> 124
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (89)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (103)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (104)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
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<400> 661
Met Ser Trp Arg Val Trp Ala Leu Leu Phe Phe Pro Ala Val Cys Val
1               5                   10                  15

Cys Val Cys Val Cys Val Cys Ala Cys Thr Arg Thr Arg Val Cys Asp
            20                  25                  30

Glu Thr Ile Lys Leu Val
        35



<210> 662
<211> 37
<212> PRT
<213> Homo sapiens

<400> 662
Met Val Glu Ser Pro Val Cys Gly Leu Leu Glu Gly Trp Phe Phe Leu
1               5                   10                  15

Leu Phe Ser Leu Ala Phe Leu Ser Thr His Leu Phe Ser Glu Ala Ser
            20                  25                  30

Pro Leu Ser Ile Leu
        35



<210> 663
<211> 37
<212> PRT
<213> Homo sapiens

<400> 663
Met Val Glu Ser Pro Val Cys Gly Leu Leu Glu Gly Trp Phe Phe Leu
1               5                   10                  15

Leu Phe Ser Leu Ala Phe Leu Ser Thr His Leu Phe Ser Glu Ala Ser
            20                  25                  30

Pro Leu Ser Ile Leu
        35



<210> 664
<211> 58
<212> PRT
<213> Homo sapiens

<400> 664
Met Thr Leu Ser Val Leu Gln His Phe Phe Ile Cys Val Leu Leu Ile
1               5                   10                  15

Leu Leu Leu Asp Thr Asn Leu Cys Arg Gln Ile Ser Ser His Ser Phe
            20                  25                  30

Glu Phe Ser Gly Asn Gln Pro Leu Val Phe Cys Cys Ile Ser Ser Ile
```

Arg Met Phe Leu Pro Leu His Ser Ala Leu Thr Gln Asn Phe Cys Ser
115 120 125

<210> 659
<211> 24
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (9)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (18)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 659
Met Ser Trp Arg Val Trp Ala Leu Xaa Phe Phe Pro Ala Val Cys Val
1 5 10 15

Cys Xaa Cys Val Cys Val Tyr Thr
20

<210> 660
<211> 65
<212> PRT
<213> Homo sapiens

<400> 660
Val Leu Met Arg Ser Asp Gly Phe Ile Arg Gly Phe Ser Pro Phe Cys
1 5 10 15

Trp Ala Leu Leu Leu Leu Pro Pro Arg Glu Glu Gly Cys Val Cys Phe
20 25 30

Pro Phe Cys His Asp Cys Lys Phe Pro Val Ala Ser Pro Ser Leu Arg
35 40 45

Asn Cys Glu Ser Ile Lys Ala Leu Phe Phe Ile Lys Lys Lys Lys Lys
50 55 60

Asn
65

<210> 661
<211> 38
<212> PRT
<213> Homo sapiens

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<221> SITE
<222> (96)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 657
Met Pro Val Phe Val Cys Ser Ile Gly Leu Cys Phe Leu Phe Ser Ile
 1               5                  10                  15

Leu Leu Leu Phe Pro Pro Phe Gln Phe Ser Tyr Ile Cys Trp Leu Ser
            20                  25                  30

Gln Ala Ser Val Tyr Ser Pro Ser Pro Ser Leu Ser Asn Leu Glu Val
        35                  40                  45

Leu Leu Cys Leu Ser Ile Leu Leu Met Ile Ile Phe Pro Phe Leu Ile
    50                  55                  60

Ser Ile Xaa Xaa Ile Xaa Ser Ile Gly Arg Leu Ser Thr His Met Gly
65                  70                  75                  80

Ala His Thr His Thr His Thr His Thr His Thr His Thr His Thr Xaa
                85                  90                  95

Val Cys Tyr Trp Pro Leu Leu Leu Ile Ser Gln Glu Asn Glu Pro Phe
            100                 105                 110

Arg Met Phe Leu Pro Leu His Ser Ala Leu Thr Gln Asn Phe Cys Ser
        115                 120                 125



<210> 658
<211> 128
<212> PRT
<213> Homo sapiens

<400> 658
Met Pro Val Phe Val Cys Ser Ile Gly Leu Cys Phe Leu Phe Ser Ile
 1               5                  10                  15

Leu Leu Leu Phe Pro Pro Phe Gln Phe Ser Tyr Ile Cys Trp Leu Ser
            20                  25                  30

Gln Ala Ser Val Tyr Ser Pro Ser Pro Ser Leu Ser Asn Leu Glu Val
        35                  40                  45

Leu Leu Cys Leu Ser Ile Leu Leu Met Ile Ile Phe Pro Phe Leu Ile
    50                  55                  60

Ser Ile Ile His Ile Phe Ser Ile Gly Arg Leu Ser Thr His Met Gly
65                  70                  75                  80

Ala His Thr His Thr His Thr His Thr His Thr His Thr His Thr Gln
                85                  90                  95

Val Cys Tyr Trp Pro Leu Leu Leu Ile Ser Gln Glu Asn Glu Pro Phe
            100                 105                 110
```

1 5 10 15

Ser Gly Arg Val Cys Glu Glu Leu Lys Phe Phe Phe Ser Phe Phe Phe
20 25 30

Phe Leu Arg Arg Ser Leu Thr Pro Ala Gln Ala Thr Ala Gly Asp Ser
35 40 45

Val Ser Lys Lys Gln Arg Glu Glu Arg Lys Lys Glu Lys Lys Glu Gly
50 55 60

Arg Arg Lys Glu Gly Arg Asn Glu Gly Thr Lys Glu Gly Arg Lys Arg
65 70 75 80

Lys Glu Gly Arg Lys Lys Glu Arg Glu Arg Glu Arg Lys Lys Glu Arg
85 90 95

Lys Lys Glu Arg Lys Lys Glu Lys Lys Lys Lys Lys Thr Gly Thr
100 105 110

<210> 656
<211> 42
<212> PRT
<213> Homo sapiens

<400> 656
Met Asn Ser Ser Phe Phe Ile Ser Leu Pro Ala Leu Ile Trp Ser Val
1 5 10 15

Cys Leu Ile Leu Gly Trp Trp Gln Val Ser Ser Gly Lys Val Ala His
20 25 30

Cys Gly Phe Ile Phe Cys Phe Pro Asn Asn
35 40

<210> 657
<211> 128
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (67)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (68)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
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<223> Xaa equals any of the naturally occurring L-amino acids

<220>

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Gln Glu Lys Thr Gly Lys Thr Glu Pro Ser Phe Thr Lys Glu Asn Ser
            580                 585                 590

Ser Lys Ile Pro Lys Lys Gly Phe Val Glu Val Thr Glu Leu Thr Asp
        595                 600                 605

Val Thr Tyr Thr Ser Asn Leu Val Arg Leu Arg Pro Gly His Met Asn
    610                 615                 620

Val Val Leu Ile Leu Ser Asn Ser Thr Lys Thr Ser Leu Leu Gln Lys
625                 630                 635                 640

Phe Ala Leu Glu Val Tyr Thr Phe Thr Gly Ser Ser Cys Leu His Phe
                645                 650                 655

Ser Phe Leu Ser Leu Asp Lys His Arg Glu Trp Leu Glu Tyr Leu Leu
            660                 665                 670

Glu Phe Ala Gln Asp Ala Ala Pro Ile Pro Asn Gln Tyr Asp Lys His
        675                 680                 685

Phe Met Glu Arg Asp Tyr Thr Gly Tyr Val Leu Ala Leu Asn Gly His
    690                 695                 700

Lys Lys Tyr Phe Cys Leu Phe Lys Pro Gln Lys Thr Val Glu Glu Glu
705                 710                 715                 720

Glu Ala Ile Gly Ser Cys Ser Asp Val Asp Ser Ser Leu Tyr Leu Gly
                725                 730                 735

Glu



<210> 654
<211> 42
<212> PRT
<213> Homo sapiens

<400> 654
Met Asn Ser Ser Phe Phe Ile Ser Leu Pro Ala Leu Ile Trp Ser Val
 1               5                  10                  15

Cys Leu Ile Leu Gly Trp Trp Gln Val Ser Ser Gly Lys Val Ala His
             20                  25                  30

Cys Gly Phe Ile Phe Cys Phe Pro Asn Asn
         35                  40



<210> 655
<211> 111
<212> PRT
<213> Homo sapiens

<400> 655
Cys Gly Ser His Arg Met Ser Trp Lys Met Tyr Cys Pro Leu His Phe
```

```
Lys Asn Tyr Val Arg Phe Leu Ser Gly Trp Gln Gln Glu Asn Lys Pro
            260                 265                 270

His Val Leu Leu Phe Asp Gln Thr Pro Ile Val Pro Leu Leu Tyr Lys
        275                 280                 285

Leu Thr Ala Phe Ala Tyr Lys Asp Tyr Leu Ser Phe Gly Tyr Val Tyr
    290                 295                 300

Val Gly Leu Arg Gly Thr Glu Glu Met Thr Arg Arg Tyr Asn Ile Asn
305                 310                 315                 320

Ile Tyr Ala Pro Thr Leu Leu Val Phe Lys Glu His Ile Asn Arg Pro
                325                 330                 335

Ala Asp Val Ile Gln Ala Arg Gly Met Lys Lys Gln Ile Ile Asp Asp
            340                 345                 350

Phe Ile Thr Arg Asn Lys Tyr Leu Leu Ala Ala Arg Leu Thr Ser Gln
        355                 360                 365

Lys Leu Phe His Glu Leu Cys Pro Val Lys Arg Ser His Arg Gln Arg
    370                 375                 380

Lys Tyr Cys Val Val Leu Leu Thr Ala Glu Thr Thr Lys Leu Ser Lys
385                 390                 395                 400

Pro Phe Glu Ala Phe Leu Ser Phe Ala Leu Ala Asn Thr Gln Asp Thr
                405                 410                 415

Val Arg Phe Val His Val Tyr Ser Asn Arg Gln Gln Glu Phe Ala Asp
            420                 425                 430

Thr Leu Leu Pro Asp Ser Glu Ala Phe Gln Gly Lys Ser Ala Val Ser
        435                 440                 445

Ile Leu Glu Arg Arg Asn Thr Ala Gly Arg Val Val Tyr Lys Thr Leu
    450                 455                 460

Glu Asp Pro Trp Ile Gly Ser Glu Ser Asp Lys Phe Ile Leu Leu Gly
465                 470                 475                 480

Tyr Leu Asp Gln Leu Arg Lys Asp Pro Ala Leu Leu Ser Ser Glu Ala
                485                 490                 495

Val Leu Pro Asp Leu Thr Asp Glu Leu Ala Pro Val Phe Leu Leu Arg
            500                 505                 510

Trp Phe Tyr Ser Ala Ser Asp Tyr Ile Ser Asp Cys Trp Asp Ser Ile
        515                 520                 525

Phe His Asn Asn Trp Arg Glu Met Met Pro Leu Leu Ser Leu Ile Phe
    530                 535                 540

Ser Ala Leu Phe Ile Leu Phe Gly Thr Val Ile Val Gln Ala Phe Ser
545                 550                 555                 560

Asp Ser Asn Asp Glu Arg Glu Ser Ser Pro Pro Glu Lys Glu Glu Ala
                565                 570                 575
```

```
305                 310                 315                 320

Ile Tyr Ala Pro Thr Leu Leu Ala Leu Lys Asn Ile
                325                 330



<210> 653
<211> 737
<212> PRT
<213> Homo sapiens

<400> 653
Met Glu Val Arg Lys Leu Ser Ile Ser Trp Gln Phe Leu Ile Val Leu
  1               5                  10                  15

Val Leu Ile Leu Gln Ile Leu Ser Ala Leu Asp Phe Asp Pro Tyr Arg
             20                  25                  30

Val Leu Gly Val Ser Arg Thr Ala Ser Gln Ala Asp Ile Lys Lys Ala
         35                  40                  45

Tyr Lys Lys Leu Ala Arg Glu Trp His Pro Asp Lys Asn Lys Asp Pro
     50                  55                  60

Gly Ala Glu Asp Lys Phe Ile Gln Ile Ser Lys Ala Tyr Glu Ile Leu
 65                  70                  75                  80

Ser Asn Glu Glu Lys Arg Ser Asn Tyr Asp Gln Tyr Gly Asp Ala Gly
                 85                  90                  95

Glu Asn Gln Gly Tyr Gln Lys Gln Gln Gln Gln Arg Glu Tyr Arg Phe
            100                 105                 110

Arg His Phe His Glu Asn Phe Tyr Phe Asp Glu Ser Phe Phe His Phe
        115                 120                 125

Pro Phe Asn Ser Glu Arg Arg Asp Ser Ile Asp Glu Lys Tyr Leu Leu
    130                 135                 140

His Phe Ser His Tyr Val Asn Glu Val Val Pro Asp Ser Phe Lys Lys
145                 150                 155                 160

Pro Tyr Leu Ile Lys Ile Thr Ser Asp Trp Cys Phe Ser Cys Ile His
                165                 170                 175

Ile Glu Pro Val Trp Lys Glu Val Ile Gln Glu Leu Glu Glu Leu Gly
            180                 185                 190

Val Gly Ile Gly Val Val His Ala Gly Tyr Glu Arg Arg Leu Ala His
        195                 200                 205

His Leu Gly Ala His Ser Thr Pro Ser Ile Leu Gly Ile Ile Asn Gly
    210                 215                 220

Lys Ile Ser Phe Phe His Asn Ala Val Val Arg Glu Asn Leu Arg Gln
225                 230                 235                 240

Phe Val Glu Ser Leu Leu Pro Gly Asn Leu Val Glu Lys Val Thr Asn
                245                 250                 255
```

```
<400> 652
Met Glu Val Arg Lys Leu Ser Ile Ser Trp Gln Phe Leu Ile Val Leu
 1               5                   10                  15

Val Leu Ile Leu Gln Ile Leu Ser Ala Leu Asp Phe Asp Pro Tyr Arg
             20                  25                  30

Val Leu Gly Val Ser Arg Thr Ala Ser Gln Ala Asp Ile Lys Lys Ala
         35                  40                  45

Tyr Lys Lys Leu Ala Arg Glu Trp His Pro Asp Lys Asn Lys Asp Pro
     50                  55                  60

Gly Ala Glu Asp Lys Phe Ile Gln Ile Ser Lys Ala Tyr Glu Ile Leu
 65                  70                  75                  80

Ser Asn Glu Glu Lys Arg Ser Asn Tyr Asp Gln Tyr Gly Asp Ala Gly
                 85                  90                  95

Glu Asn Gln Gly Tyr Gln Lys Gln Gln Gln Gln Arg Glu Tyr Arg Phe
            100                 105                 110

Arg His Phe His Glu Asn Phe Tyr Phe Asp Glu Ser Phe Phe His Phe
        115                 120                 125

Pro Phe Asn Ser Glu Arg Arg Asp Ser Ile Asp Glu Lys Tyr Leu Leu
    130                 135                 140

His Phe Ser His Tyr Val Asn Glu Val Val Pro Asp Ser Phe Lys Lys
145                 150                 155                 160

Pro Tyr Leu Ile Lys Ile Thr Ser Asp Trp Cys Phe Ser Cys Ile His
                165                 170                 175

Ile Glu Pro Val Trp Lys Glu Val Ile Gln Glu Leu Glu Glu Leu Gly
            180                 185                 190

Val Gly Ile Gly Val Val His Ala Gly Tyr Glu Xaa Arg Leu Ala His
        195                 200                 205

His Leu Gly Ala His Ser Thr Pro Ser Ile Leu Gly Ile Ile Asn Gly
    210                 215                 220

Lys Ile Ser Phe Phe His Asn Ala Val Val Arg Glu Asn Leu Arg Gln
225                 230                 235                 240

Phe Val Glu Ser Leu Leu Pro Gly Asn Leu Val Glu Lys Val Thr Asn
                245                 250                 255

Lys Asn Tyr Val Arg Phe Leu Ser Gly Trp Gln Gln Glu Asn Lys Pro
            260                 265                 270

His Val Leu Leu Phe Asp Gln Thr Pro Ile Xaa Pro Leu Leu Tyr Lys
        275                 280                 285

Leu Thr Ala Phe Ala Tyr Lys Asp Tyr Leu Ser Phe Gly Tyr Val Tyr
    290                 295                 300

Xaa Gly Leu Arg Gly Thr Glu Glu Met Thr Arg Arg Tyr Asn Ile Asn
```

```
Met Met Pro Leu Leu Ser Leu Ile Phe Ser Ala Leu Phe Ile Leu Phe
1               5                   10                  15

Gly Thr Val Ile Val Gln Ala Phe Ser Asp Ser Asn Asp Glu Arg Glu
            20                  25                  30

Ser Ser Pro Pro Glu Lys Glu Glu Ala Gln Glu Lys Thr Gly Lys Thr
        35                  40                  45

Glu Pro Ser Phe Thr Lys Glu Asn Ser Ser Lys Ile Pro Lys Lys Gly
    50                  55                  60

Phe Val Glu Val Thr Glu Leu Thr Asp Val Thr Tyr Thr Ser Asn Leu
65                  70                  75                  80

Val Arg Leu Arg Pro Gly His Met Asn Val Val Leu Ile Leu Ser Asn
                85                  90                  95

Ser Thr Lys Thr Ser Leu Leu Gln Lys Phe Ala Leu Glu Val Tyr Thr
            100                 105                 110

Phe Thr Gly Ser Ser Cys Leu His Phe Ser Phe Leu Ser Leu Asp Lys
        115                 120                 125

His Arg Glu Trp Leu Glu Tyr Leu Leu Glu Phe Ala Gln Asp Ala Ala
    130                 135                 140

Pro Ile Pro Asn Gln Tyr Asp Lys His Phe Met Glu Arg Asp Tyr Thr
145                 150                 155                 160

Gly Tyr Val Leu Ala Leu Asn Gly His Lys Lys Tyr Phe Cys Leu Phe
                165                 170                 175

Lys Pro Gln Lys Thr Val Glu Glu Glu Glu Ala Ile Gly Ser Cys Ser
            180                 185                 190

Asp Val Asp Ser Ser Leu Tyr Leu Gly Glu Ser Arg
        195                 200
```

<210> 652
<211> 332
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (204)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (283)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (305)
<223> Xaa equals any of the naturally occurring L-amino acids

```
Asp Thr Val Gln Cys Asp Leu Asp Leu Tyr Lys Ser Leu Gln Ala Trp
    610                 615                 620

Lys Asp His Lys Leu His Ile Asp His Glu Ile Glu Thr Leu Gln Asn
625                 630                 635                 640

Lys Ile Lys Asn Leu Arg Glu Val Arg Gly His Leu Lys Lys Lys Arg
                645                 650                 655

Pro Glu Glu Cys Asp Cys His Lys Ile Ser Tyr His Thr Gln His Lys
            660                 665                 670

Gly Arg Leu Lys His Arg Gly Ser Ser Leu His Pro Phe Arg Lys Gly
        675                 680                 685

Leu Gln Glu Lys Asp Lys Val Trp Leu Leu Arg Glu Gln Lys Arg Lys
    690                 695                 700

Lys Lys Leu Arg Lys Leu Leu Lys Arg Leu Gln Asn Asn Asp Thr Cys
705                 710                 715                 720

Ser Met Pro Gly Leu Thr Cys Phe Thr His Asp Asn Gln His Trp Gln
                725                 730                 735

Thr Ala Pro Phe Trp Thr Leu Gly Pro Phe Cys Ala Cys Thr Ser Ala
            740                 745                 750

Asn Asn Asn Thr Tyr Trp Cys Met Arg Thr Ile Asn Glu Thr His Asn
        755                 760                 765

Phe Leu Phe Cys Glu Phe Ala Thr Gly Phe Leu Glu Tyr Phe Asp Leu
    770                 775                 780

Asn Thr Asp Pro Tyr Gln Leu Met Asn Ala Val Asn Thr Leu Asp Arg
785                 790                 795                 800

Asp Val Leu Asn Gln Leu His Val Gln Leu Met Glu Leu Arg Ser Cys
                805                 810                 815

Lys Gly Tyr Lys Gln Cys Asn Pro Arg Thr Arg Asn Met Asp Leu Gly
            820                 825                 830

Leu Lys Asp Gly Gly Ser Tyr Glu Gln Tyr Arg Gln Phe Gln Arg Arg
        835                 840                 845

Lys Trp Pro Glu Met Lys Arg Pro Ser Ser Lys Ser Leu Gly Gln Leu
    850                 855                 860

Trp Glu Gly Trp Glu Gly
865                 870
```

<210> 651
<211> 204
<212> PRT
<213> Homo sapiens

<400> 651

```
Ser Val Asp Asp Ser Met Glu Thr Ile Tyr Asn Met Leu Val Glu Thr
    290                 295                 300

Gly Glu Leu Asp Asn Thr Tyr Ile Val Tyr Thr Ala Asp His Gly Tyr
305                 310                 315                 320

His Ile Gly Gln Phe Gly Leu Val Lys Gly Lys Ser Met Pro Tyr Glu
                325                 330                 335

Phe Asp Ile Arg Val Pro Phe Tyr Val Arg Gly Pro Asn Val Glu Ala
            340                 345                 350

Gly Cys Leu Asn Pro His Ile Val Leu Asn Ile Asp Leu Ala Pro Thr
        355                 360                 365

Ile Leu Asp Ile Ala Gly Leu Asp Ile Pro Ala Asp Met Asp Gly Lys
    370                 375                 380

Ser Ile Leu Lys Leu Leu Asp Thr Glu Arg Pro Val Asn Arg Phe His
385                 390                 395                 400

Leu Lys Lys Lys Met Arg Val Trp Arg Asp Ser Phe Leu Val Glu Arg
                405                 410                 415

Gly Lys Leu Leu His Lys Arg Asp Asn Asp Lys Val Asp Ala Gln Glu
            420                 425                 430

Glu Asn Phe Leu Pro Lys Tyr Gln Arg Val Lys Asp Leu Cys Gln Arg
        435                 440                 445

Ala Glu Tyr Gln Thr Ala Cys Glu Gln Leu Gly Gln Lys Trp Gln Cys
    450                 455                 460

Val Glu Asp Ala Thr Gly Lys Leu Lys Leu His Lys Cys Lys Gly Pro
465                 470                 475                 480

Met Arg Leu Gly Gly Ser Arg Ala Leu Ser Asn Leu Val Pro Lys Tyr
                485                 490                 495

Tyr Gly Gln Gly Ser Glu Ala Cys Thr Cys Asp Ser Gly Asp Tyr Lys
            500                 505                 510

Leu Ser Leu Ala Gly Arg Arg Lys Lys Leu Phe Lys Lys Lys Tyr Lys
        515                 520                 525

Ala Ser Tyr Val Arg Ser Arg Ser Ile Arg Ser Val Ala Ile Glu Val
    530                 535                 540

Asp Gly Arg Val Tyr His Val Gly Leu Gly Asp Ala Ala Gln Pro Arg
545                 550                 555                 560

Asn Leu Thr Lys Arg His Trp Pro Gly Ala Pro Glu Asp Gln Asp Asp
                565                 570                 575

Lys Asp Gly Gly Asp Phe Ser Gly Thr Gly Gly Leu Pro Asp Tyr Ser
            580                 585                 590

Ala Ala Asn Pro Ile Lys Val Thr His Arg Cys Tyr Ile Leu Glu Asn
        595                 600                 605
```

```
<210> 650
<211> 870
<212> PRT
<213> Homo sapiens

<400> 650
Met Gly Pro Pro Ser Leu Val Leu Cys Leu Leu Ser Ala Thr Val Phe
  1               5                  10                  15

Ser Leu Leu Gly Gly Ser Ser Ala Phe Leu Ser His His Arg Leu Lys
             20                  25                  30

Gly Arg Phe Gln Arg Asp Arg Arg Asn Ile Arg Pro Asn Ile Ile Leu
         35                  40                  45

Val Leu Thr Asp Asp Gln Asp Val Glu Leu Gly Ser Met Gln Val Met
     50                  55                  60

Asn Lys Thr Arg Arg Ile Met Glu Gln Gly Gly Ala His Phe Ile Asn
 65                  70                  75                  80

Ala Phe Val Thr Thr Pro Met Cys Cys Pro Ser Arg Ser Ser Ile Leu
                 85                  90                  95

Thr Gly Lys Tyr Val His Asn His Asn Thr Tyr Thr Asn Asn Glu Asn
            100                 105                 110

Cys Ser Ser Pro Ser Trp Gln Ala Gln His Glu Ser Arg Thr Phe Ala
        115                 120                 125

Val Tyr Leu Asn Ser Thr Gly Tyr Arg Thr Ala Phe Phe Gly Lys Tyr
    130                 135                 140

Leu Asn Glu Tyr Asn Gly Ser Tyr Val Pro Pro Gly Trp Lys Glu Trp
145                 150                 155                 160

Val Gly Leu Leu Lys Asn Ser Arg Phe Tyr Asn Tyr Thr Leu Cys Arg
                165                 170                 175

Asn Gly Val Lys Glu Lys His Gly Ser Asp Tyr Ser Lys Asp Tyr Leu
            180                 185                 190

Thr Asp Leu Ile Thr Asn Asp Ser Val Ser Phe Phe Arg Thr Ser Lys
        195                 200                 205

Lys Met Tyr Pro His Arg Pro Val Leu Met Val Ile Ser His Ala Ala
    210                 215                 220

Pro His Gly Pro Glu Asp Ser Ala Pro Gln Tyr Ser Arg Leu Phe Pro
225                 230                 235                 240

Asn Ala Ser Gln His Ile Thr Pro Ser Tyr Asn Tyr Ala Pro Asn Pro
                245                 250                 255

Asp Lys His Trp Ile Met Arg Tyr Thr Gly Pro Met Lys Pro Ile His
            260                 265                 270

Met Glu Phe Thr Asn Met Leu Gln Arg Lys Arg Leu Gln Thr Leu Met
        275                 280                 285
```

```
                565                 570                 575

Lys Asp Gly Gly Asp Phe Ser Gly Thr Gly Gly Leu Pro Asp Tyr Ser
            580                 585                 590

Ala Ala Asn Pro Ile Lys Val Thr His Arg Cys Tyr Ile Leu Glu Asn
        595                 600                 605

Asp Thr Val Gln Cys Asp Leu Asp Leu Tyr Lys Ser Leu Gln Ala Trp
    610                 615                 620

Lys Asp His Lys Leu His Ile Asp His Glu Ile Glu Thr Leu Gln Asn
625                 630                 635                 640

Lys Ile Lys Asn Leu Arg Glu Val Arg Gly His Leu Lys Lys Lys Arg
                645                 650                 655

Pro Glu Glu Cys Asp Cys His Lys Ile Ser Tyr His Thr Gln His Lys
            660                 665                 670

Gly Arg Leu Lys His Arg Gly Ser Ser Leu His Pro Phe Arg Lys Gly
        675                 680                 685

Leu Gln Glu Lys Asp Lys Val Trp Leu Leu Arg Glu Gln Lys Arg Lys
    690                 695                 700

Lys Lys Leu Arg Lys Leu Leu Lys Arg Leu Gln Asn Asn Asp Thr Cys
705                 710                 715                 720

Ser Met Pro Gly Leu Thr Cys Phe Thr His Asp Asn Gln His Trp Gln
                725                 730                 735

Thr Ala Pro Phe Trp Thr Leu Gly Pro Phe Cys Ala Cys Thr Ser Ala
            740                 745                 750

Asn Asn Asn Thr Tyr Trp Cys Met Arg Thr Ile Asn Glu Thr His Asn
        755                 760                 765

Phe Leu Phe Cys Glu Phe Ala Thr Gly Phe Leu Glu Tyr Phe Asp Leu
    770                 775                 780

Asn Thr Asp Pro Tyr Gln Leu Met Asn Ala Val Asn Thr Leu Asp Arg
785                 790                 795                 800

Asp Val Leu Asn Gln Leu His Val Gln Leu Met Glu Leu Arg Ser Cys
                805                 810                 815

Lys Gly Tyr Lys Gln Cys Asn Pro Arg Thr Arg Asn Met Asp Leu Gly
            820                 825                 830

Leu Lys Asp Gly Gly Ser Tyr Glu Gln Tyr Arg Gln Phe Gln Arg Arg
        835                 840                 845

Lys Trp Pro Glu Met Lys Arg Pro Ser Ser Lys Ser Leu Gly Gln Leu
    850                 855                 860

Trp Glu Gly Trp Glu Gly
865                 870
```

```
                245                 250                 255

Asp Lys His Trp Ile Met Arg Tyr Thr Gly Pro Met Lys Pro Ile His
            260                 265                 270

Met Glu Phe Thr Asn Met Leu Gln Arg Lys Arg Leu Gln Thr Leu Met
        275                 280                 285

Ser Val Asp Asp Ser Met Glu Thr Ile Tyr Asn Met Leu Val Glu Thr
    290                 295                 300

Gly Glu Leu Asp Asn Thr Tyr Ile Val Tyr Thr Ala Asp His Gly Tyr
305                 310                 315                 320

His Ile Gly Gln Phe Gly Leu Val Lys Gly Lys Ser Met Pro Tyr Glu
                325                 330                 335

Phe Asp Ile Arg Val Pro Phe Tyr Val Arg Gly Pro Asn Val Glu Ala
            340                 345                 350

Gly Cys Leu Asn Pro His Ile Val Leu Asn Ile Asp Leu Ala Pro Thr
        355                 360                 365

Ile Leu Asp Ile Ala Gly Leu Asp Ile Pro Ala Asp Met Asp Gly Lys
    370                 375                 380

Ser Ile Leu Lys Leu Leu Asp Thr Glu Arg Pro Val Asn Arg Phe His
385                 390                 395                 400

Leu Lys Lys Lys Met Arg Val Trp Arg Asp Ser Phe Leu Val Glu Arg
                405                 410                 415

Gly Lys Leu Leu His Lys Arg Asp Asn Asp Lys Val Asp Ala Gln Glu
            420                 425                 430

Glu Asn Phe Leu Pro Lys Tyr Gln Arg Val Lys Asp Leu Cys Gln Arg
        435                 440                 445

Ala Glu Tyr Gln Thr Ala Cys Glu Gln Leu Gly Gln Lys Trp Gln Cys
    450                 455                 460

Val Glu Asp Ala Thr Gly Lys Leu Lys Leu His Lys Cys Lys Gly Pro
465                 470                 475                 480

Met Arg Leu Gly Gly Ser Arg Ala Leu Ser Asn Leu Val Pro Lys Tyr
                485                 490                 495

Tyr Gly Gln Gly Ser Glu Ala Cys Thr Cys Asp Ser Gly Asp Tyr Lys
            500                 505                 510

Leu Ser Leu Ala Gly Arg Arg Lys Lys Leu Phe Lys Lys Lys Tyr Lys
        515                 520                 525

Ala Ser Tyr Val Arg Xaa Arg Ser Ile Arg Ser Val Ala Ile Glu Val
    530                 535                 540

Asp Gly Arg Val Tyr His Val Gly Leu Gly Asp Ala Ala Gln Pro Arg
545                 550                 555                 560

Asn Leu Thr Lys Arg His Trp Pro Gly Ala Pro Glu Asp Gln Asp Asp
```

```
<210> 649
<211> 870
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (534)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 649
Met Gly Pro Pro Ser Leu Val Leu Cys Leu Leu Ser Ala Thr Val Phe
 1               5                  10                  15

Ser Leu Leu Gly Gly Ser Ser Ala Phe Leu Ser His His Arg Leu Lys
            20                  25                  30

Gly Arg Phe Gln Arg Asp Arg Arg Asn Ile Arg Pro Asn Ile Ile Leu
        35                  40                  45

Val Leu Thr Asp Asp Gln Asp Val Glu Leu Gly Ser Met Gln Val Met
    50                  55                  60

Asn Lys Thr Arg Arg Ile Met Glu Gln Gly Gly Ala His Phe Ile Asn
65                  70                  75                  80

Ala Phe Val Thr Thr Pro Met Cys Cys Pro Ser Arg Ser Ser Ile Leu
                85                  90                  95

Thr Gly Lys Tyr Val His Asn His Asn Thr Tyr Thr Asn Asn Glu Asn
            100                 105                 110

Cys Ser Ser Pro Ser Trp Gln Ala Gln His Glu Ser Arg Thr Phe Ala
        115                 120                 125

Val Tyr Leu Asn Ser Thr Gly Tyr Arg Thr Ala Phe Phe Gly Lys Tyr
    130                 135                 140

Leu Asn Glu Tyr Asn Gly Ser Tyr Val Pro Pro Gly Trp Lys Glu Trp
145                 150                 155                 160

Val Gly Leu Leu Lys Asn Ser Arg Phe Tyr Asn Tyr Thr Leu Cys Arg
                165                 170                 175

Asn Gly Val Lys Glu Lys His Gly Ser Asp Tyr Ser Lys Asp Tyr Leu
            180                 185                 190

Thr Asp Leu Ile Thr Asn Asp Ser Val Ser Phe Phe Arg Thr Ser Lys
        195                 200                 205

Lys Met Tyr Pro His Arg Pro Val Leu Met Val Ile Ser His Ala Ala
    210                 215                 220

Pro His Gly Pro Glu Asp Ser Ala Pro Gln Tyr Ser Arg Leu Phe Pro
225                 230                 235                 240

Asn Ala Ser Gln His Ile Thr Pro Ser Tyr Asn Tyr Ala Pro Asn Pro
```

```
<210> 646
<211> 73
<212> PRT
<213> Homo sapiens

<400> 646
Ile Phe Leu Leu Leu Leu Leu Ser Trp Leu Glu Leu Gln Arg Thr Val
1               5                   10                  15

Ile Phe Phe Phe Ser Pro Phe Pro Ile Gln Lys His Tyr Thr Leu Gly
            20                  25                  30

His Phe Ser Phe Ser Gln Arg Arg Phe Met Asp Ser Gln Thr Glu Leu
        35                  40                  45

Cys Ala Thr Gly Lys Val Lys Arg Glu Lys Ala Ala Asp Glu Val Thr
    50                  55                  60

Trp Leu His Val Leu His His Ala Glu
65                  70


<210> 647
<211> 9
<212> PRT
<213> Homo sapiens

<400> 647
Trp Gly Leu Leu Tyr Leu Glu Leu Asn
1               5


<210> 648
<211> 81
<212> PRT
<213> Homo sapiens

<400> 648
Met Ile Leu Gly Ile His Trp Gly Ile Phe Leu Leu Leu Leu Leu Ser
1               5                   10                  15

Trp Leu Glu Leu Gln Arg Thr Val Ile Phe Phe Phe Ser Pro Phe Pro
            20                  25                  30

Ile Gln Lys His Tyr Thr Leu Gly His Phe Ser Phe Ser Gln Arg Arg
        35                  40                  45

Phe Met Asp Ser Gln Thr Glu Leu Cys Ala Thr Gly Lys Val Lys Arg
    50                  55                  60

Glu Lys Ala Ala Asp Glu Val Thr Trp Leu His Val Leu His His Ala
65                  70                  75                  80

Glu
```

<210> 644
<211> 54
<212> PRT
<213> Homo sapiens

<400> 644
Met Val Gly Leu Pro Ala Val Val Gln Leu Phe Trp Gly Leu Cys Leu
1 5 10 15

Cys Thr Cys Gly Ala Val Ser Cys Pro Thr Glu Leu Ala Val Gln Trp
20 25 30

Arg Ile Gln Ser Asp Ile Trp Cys Ser Leu Arg Lys Asn Val Ala Pro
35 40 45

Glu Ala Cys Gln Trp Leu
50

<210> 645
<211> 81
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (67)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (76)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (81)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 645
Met Ile Leu Gly Ile His Trp Gly Ile Phe Leu Leu Leu Leu Leu Ser
1 5 10 15

Trp Leu Glu Leu Gln Arg Thr Val Ile Phe Phe Phe Ser Pro Phe Pro
20 25 30

Ile Gln Lys His Tyr Thr Leu Gly His Phe Ser Phe Ser Gln Arg Arg
35 40 45

Phe Met Asp Ser Gln Thr Glu Leu Cys Ala Thr Gly Lys Val Lys Arg
50 55 60

Glu Lys Xaa Ala Asp Glu Val Thr Trp Leu His Xaa Leu His His Ala
65 70 75 80

Xaa

```
<210> 642
<211> 85
<212> PRT
<213> Homo sapiens

<400> 642
Pro Ser Val Ala Leu Cys Trp Ile Phe Phe Ile Pro Leu Gly Lys Trp
 1               5                   10                  15

Glu Phe Phe Tyr Arg Pro Ala Ile Leu Leu Leu Cys Gln Ile Ala Leu
            20                  25                  30

Tyr Tyr Gln Asp Thr Pro Met Ala His Phe Arg Leu Thr Glu Leu Phe
        35                  40                  45

Leu Tyr Glu Cys Thr Val Val Ile Phe Trp Ala Val Cys Glu Phe Leu
    50                  55                  60

Val Thr His Pro Leu Thr Thr Lys Ala Leu Ser Glu Gln Tyr Lys Ser
65                  70                  75                  80

Ile Lys Ala Gln Ile
                85



<210> 643
<211> 85
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (8)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (33)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 643
Met Val Gly Leu Pro Ala Val Xaa Gln Leu Phe Trp Gly Leu Cys Leu
 1               5                   10                  15

Cys Thr Cys Gly Leu Tyr Pro Ala Pro Gln Ser Trp Leu Ser Ser Gly
            20                  25                  30

Xaa Tyr Lys Val Thr Ser Gly Ala Pro Ser Glu Arg Met Trp Pro Gln
        35                  40                  45

Arg His Ala Ser Gly Phe Arg Leu Ser Gly Arg Thr Cys Leu Arg Ala
    50                  55                  60

Thr Ala Pro Ser Pro Ser Phe Pro Phe Phe Ser Ala Val Ile Asn Leu
65                  70                  75                  80

Ser Ala Cys Ser Lys
                85
```

```
Gly Ser Leu Phe Asn Lys Lys Glu Asn Lys Glu Val Ile Leu Lys Leu
305                 310                 315                 320

Leu Val Ile Phe Glu Asn Ile Asn Asp Asn Phe Lys Trp Glu Glu Asn
                325                 330                 335

Glu Pro Thr Gln Asn Gln Phe Gly Glu Gly Ser Leu Phe Phe Phe Leu
            340                 345                 350

Lys Glu Phe Gln Val Cys Ala Asp Lys Val Leu Gly Ile Glu Ser His
        355                 360                 365

His Asp Phe Leu Val Lys Val Lys Val Gly Lys Phe Met Ala Lys Leu
    370                 375                 380

Ala Glu His Met Phe Pro Lys Ser Gln Glu
385                 390


<210> 640
<211> 49
<212> PRT
<213> Homo sapiens

<400> 640
Met Ser Pro Arg Pro Leu Ile Ala Arg Cys Glu Ala Leu Gly Cys Gly
 1               5                   10                  15

Ala Arg Arg Leu Pro Trp Trp Ala Leu Ala Met Ala Leu Cys Ala Cys
            20                  25                  30

Gly Arg Cys Val Ala Ala Asn Ser Ile Gly Glu Thr Leu Pro Ser Glu
        35                  40                  45

Val


<210> 641
<211> 49
<212> PRT
<213> Homo sapiens

<400> 641
Met Ser Pro Arg Pro Leu Ile Ala Arg Cys Glu Ala Leu Gly Cys Gly
 1               5                   10                  15

Ala Arg Arg Leu Pro Trp Trp Ala Leu Ala Met Ala Leu Cys Ala Cys
            20                  25                  30

Gly Arg Cys Val Ala Ala Asn Ser Ile Gly Glu Thr Leu Pro Ser Glu
        35                  40                  45

Val
```

```
<213> Homo sapiens

<400> 639
Val Thr Thr Leu Phe Leu Gly Pro Cys Tyr Cys Arg Gly Arg Leu His
  1               5                  10                  15

Gly Leu Arg Gln Glu Ser Arg Leu Gly Asp Arg Ser Leu Val Ile Gly
             20                  25                  30

Ala Gly Ala Cys Tyr Cys Ile Tyr Arg Leu Thr Arg Gly Arg Lys Gln
         35                  40                  45

Asn Lys Glu Lys Met Ala Glu Gly Gly Ser Gly Asp Val Asp Asp Ala
     50                  55                  60

Gly Asp Cys Ser Gly Ala Arg Tyr Asn Asp Trp Ser Asp Asp Asp Asp
 65                  70                  75                  80

Asp Ser Asn Glu Ser Lys Ser Ile Val Trp Tyr Pro Pro Trp Ala Arg
                 85                  90                  95

Ile Gly Thr Glu Ala Gly Thr Arg Ala Arg Ala Arg Ala Arg Ala Arg
            100                 105                 110

Ala Thr Arg Ala Arg Arg Ala Val Gln Lys Arg Ala Ser Pro Asn Ser
        115                 120                 125

Asp Asp Thr Val Leu Ser Pro Gln Glu Leu Gln Lys Val Leu Cys Leu
    130                 135                 140

Val Glu Met Ser Glu Lys Pro Tyr Ile Leu Glu Ala Ala Leu Ile Ala
145                 150                 155                 160

Leu Gly Asn Asn Ala Ala Tyr Ala Phe Asn Arg Asp Ile Ile Arg Asp
                165                 170                 175

Leu Gly Gly Leu Pro Ile Val Ala Lys Ile Leu Asn Thr Arg Asp Pro
            180                 185                 190

Ile Val Lys Glu Lys Ala Leu Ile Val Leu Asn Asn Leu Ser Val Asn
        195                 200                 205

Ala Glu Asn Gln Arg Arg Leu Lys Val Tyr Met Asn Gln Val Cys Asp
    210                 215                 220

Asp Thr Ile Thr Ser Arg Leu Asn Ser Ser Val Gln Leu Ala Gly Leu
225                 230                 235                 240

Arg Leu Leu Thr Asn Met Thr Val Thr Asn Glu Tyr Gln His Met Leu
                245                 250                 255

Ala Asn Ser Ile Ser Asp Phe Phe Arg Leu Phe Ser Ala Gly Asn Glu
            260                 265                 270

Glu Thr Lys Leu Gln Val Leu Lys Leu Leu Leu Asn Leu Ala Glu Asn
        275                 280                 285

Pro Ala Met Thr Arg Glu Leu Leu Arg Ala Gln Val Pro Ser Ser Leu
    290                 295                 300
```

```
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 636
Trp Phe Gln Thr Val Asp Arg His Cys Phe Val Leu Xaa Thr Asp Lys
 1               5                  10                  15

Val Lys Leu Thr Trp Arg Asp Arg Phe Pro Ala Tyr Leu Thr Asn Leu
            20                  25                  30

Val Ser Ile Ile Phe Met Xaa Ser Ser Arg Arg Leu Arg Pro Asp Glu
        35                  40                  45

Val Arg Gly Asn Arg Lys Glu Val Ile Gly Phe Ser Arg Ala Trp Trp
    50                  55                  60

Phe Thr Thr Val Ile Pro Ala Leu Trp Glu Ala Glu Ala Gly Arg Ser
65                  70                  75                  80

Leu Glu Val Arg Ser Ser Arg Pro Ala Trp Pro Ile Trp
                85                  90



<210> 637
<211> 35
<212> PRT
<213> Homo sapiens

<400> 637
Met Ser Leu Gly Phe Trp Val Trp Leu Pro Ser Cys Cys His Lys Met
 1               5                  10                  15

Leu Val Val Thr Cys Thr Phe Gly His Tyr Leu Pro Leu Glu Ser Ser
            20                  25                  30

His His Leu
        35



<210> 638
<211> 35
<212> PRT
<213> Homo sapiens

<400> 638
Met Ser Leu Gly Phe Trp Val Trp Leu Pro Ser Cys Cys His Lys Met
 1               5                  10                  15

Leu Val Val Thr Cys Thr Phe Gly His Tyr Leu Pro Leu Glu Ser Ser
            20                  25                  30

His His Leu
        35



<210> 639
<211> 394
<212> PRT
```

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<210> 633
<211> 42
<212> PRT
<213> Homo sapiens

<400> 633
Met Phe Lys Lys Asp Leu Ile Cys Lys Arg Trp Ser Phe Phe Phe Trp
 1               5                   10                  15

Gly Leu Leu Ile Ser Val Val Ile Leu Thr Ser Phe Ser Asn Tyr Ser
             20                  25                  30

Arg Arg Phe Tyr Leu Asp Leu Tyr Phe Ser
         35                  40


<210> 634
<211> 7
<212> PRT
<213> Homo sapiens

<400> 634
Phe Ile Gly Phe Ile Leu Cys
 1               5


<210> 635
<211> 42
<212> PRT
<213> Homo sapiens

<400> 635
Met Phe Lys Lys Asp Leu Ile Cys Lys Arg Trp Ser Phe Phe Phe Trp
 1               5                   10                  15

Gly Leu Leu Ile Ser Val Val Ile Leu Thr Ser Phe Ser Asn Tyr Ser
             20                  25                  30

Arg Arg Phe Tyr Leu Asp Leu Tyr Phe Ser
         35                  40


<210> 636
<211> 93
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (13)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (39)
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<210> 629
<211> 32
<212> PRT
<213> Homo sapiens

<400> 629
Trp Asn Pro Ile Ser Met Lys Asn Lys Leu Lys Ile Leu Lys Ile Lys
 1               5                   10                  15

Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Gly Arg Pro
             20                  25                  30




<210> 630
<211> 15
<212> PRT
<213> Homo sapiens

<400> 630
Pro Ala Pro Leu Pro Leu Arg Trp Ser Pro Ala Gly Pro Gly Gln
 1               5                   10                  15


<210> 631
<211> 44
<212> PRT
<213> Homo sapiens

<400> 631
Met Ala Pro Ala Cys Gln Ile Leu Arg Trp Ala Leu Ala Leu Gly Leu
 1               5                   10                  15

Gly Leu Met Phe Glu Val Thr His Ala Phe Arg Ser Gln Gly Arg Gly
             20                  25                  30

Ser Leu Val Val Ala Val Gly Arg Glu Arg Lys Met
         35                  40


<210> 632
<211> 44
<212> PRT
<213> Homo sapiens

<400> 632
Met Ala Pro Ala Cys Gln Ile Leu Arg Trp Ala Leu Ala Leu Gly Leu
 1               5                   10                  15

Gly Leu Met Phe Glu Val Thr His Ala Phe Arg Ser Gln Gly Arg Gly
             20                  25                  30

Ser Leu Val Val Ala Val Gly Arg Glu Arg Lys Met
         35                  40
```

```
Cys Gln Asn Gly Gly Thr Cys Val Glu Gly Val Asn Gln Tyr Arg Cys
145                 150                 155                 160

Ile Cys Pro Pro Gly Arg Thr Gly Asn Arg Cys Gln His Gln Ala Gln
                165                 170                 175

Thr Ala Ala Pro Glu Gly Ser Val Ala Gly Asp Ser Ala Phe Ser Arg
            180                 185                 190

Ala Pro Arg Cys Ala Gln Val Glu Arg Ala Gln His Cys Ser Cys Glu
        195                 200                 205

Ala Gly Phe His Leu Ser Gly Ala Ala Gly Asp Ser Val Cys Gln Asp
    210                 215                 220

Val Asn Glu Cys Glu Leu Tyr Gly Gln Glu Gly Arg Pro Arg Leu Cys
225                 230                 235                 240

Met His Ala Cys Val Asn Thr Pro Gly Ser Tyr Arg Cys Thr Cys Pro
                245                 250                 255

Gly Gly Tyr Arg Thr Leu Ala Asp Gly Lys Ser Cys Glu Asp Val Asp
            260                 265                 270

Glu Cys Val Gly Leu Gln Pro Val Cys Pro Gln Gly Thr Thr Cys Ile
        275                 280                 285

Asn Thr Gly Gly Ser Phe Gln Cys Val Ser Pro Glu Cys Pro Glu Gly
    290                 295                 300

Ser Gly Asn Val Ser Tyr Val Lys Thr Ser Pro Phe Gln Cys Glu Arg
305                 310                 315                 320

Asn Pro Cys Pro Met Asp Ser Arg Pro Cys Arg His Leu Pro Lys Thr
                325                 330                 335

Ile Ser Phe His Tyr Leu Ser Leu Pro Ser Asn Leu Lys Thr Pro Ile
            340                 345                 350

Thr Leu Phe Arg Met Ala Thr Ala Ser Ala Pro Gly Arg Ala Gly Pro
        355                 360                 365

Asn Ser Leu Arg Phe Gly Ile Val Gly Gly Asn Ser Arg Gly His Phe
    370                 375                 380

Val Met Gln Arg Ser Asp Arg Gln Thr Gly Asp Leu Ile Leu Val Gln
385                 390                 395                 400

Asn Leu Glu Gly Pro Gln Thr Leu Glu Val Asp Val Asp Met Ser Glu
                405                 410                 415

Tyr Leu Asp Arg Ser Phe Gln Ala Asn His Val Ser Lys Val Thr Ile
            420                 425                 430

Phe Val Ser Pro Tyr Asp Phe
        435
```

```
305                 310                 315                 320

Asn Pro Cys Pro Met Asp Ser Arg Pro Cys Arg His Leu Pro Lys Thr
                325                 330                 335

Ile Ser Phe His Tyr Leu Ser Leu Pro Ser Asn Leu Lys Thr Pro Ile
            340                 345                 350

Thr Leu Phe Arg Met Xaa Thr Ala Ser Ala Pro Gly Arg Ala Gly Pro
        355                 360                 365

Asn Ser Leu Arg Phe Gly Ile Val Gly Gly Asn Ser Arg Gly His Phe
    370                 375                 380

Val Met Gln Arg Ser Asp Arg Gln Thr Gly Asp Leu Ile Leu Val Gln
385                 390                 395                 400

Asn Leu Glu Gly Pro Gln Thr Leu Glu Val Asp Val Asp Met Ser Glu
                405                 410                 415

Tyr Leu Asp Arg Ser Phe Gln Ala Asn His Val Ser Lys Val Thr Ile
            420                 425                 430

Phe Val Ser Pro Tyr Asp Phe
        435


<210> 628
<211> 439
<212> PRT
<213> Homo sapiens

<400> 628
Met Val Pro Ser Ser Pro Arg Ala Leu Phe Leu Leu Leu Leu Ile Leu
  1               5                  10                  15

Ala Cys Pro Glu Pro Arg Ala Ser Gln Asn Cys Leu Ser Lys Gln Gln
             20                  25                  30

Leu Leu Ser Ala Ile Arg Gln Leu Gln Gln Leu Leu Lys Gly Gln Glu
         35                  40                  45

Thr Arg Phe Ala Glu Gly Ile Arg His Met Lys Ser Arg Leu Ala Ala
     50                  55                  60

Leu Gln Asn Ser Val Gly Arg Val Gly Pro Asp Ala Leu Pro Val Ser
 65                  70                  75                  80

Cys Pro Ala Leu Asn Thr Pro Ala Asp Gly Arg Lys Phe Gly Ser Lys
                 85                  90                  95

Tyr Leu Val Asp His Glu Val His Phe Thr Cys Asn Pro Gly Phe Arg
            100                 105                 110

Leu Val Gly Pro Ser Ser Val Val Cys Leu Pro Asn Gly Thr Trp Thr
        115                 120                 125

Gly Glu Gln Pro His Cys Arg Gly Ile Ser Glu Cys Ser Ser Gln Pro
    130                 135                 140
```

```
<400> 627
Met Val Pro Ser Ser Pro Arg Ala Leu Phe Leu Leu Leu Leu Ile Leu
 1               5                  10                  15

Ala Cys Pro Glu Pro Arg Ala Ser Gln Asn Cys Leu Ser Lys Gln Gln
             20                  25                  30

Leu Leu Ser Ala Ile Arg Gln Leu Gln Gln Leu Leu Lys Gly Gln Glu
         35                  40                  45

Thr Arg Phe Ala Glu Gly Ile Arg His Met Lys Ser Arg Leu Ala Ala
     50                  55                  60

Leu Gln Asn Ser Val Gly Arg Val Gly Pro Asp Ala Leu Pro Val Ser
 65                  70                  75                  80

Cys Pro Ala Leu Asn Thr Pro Ala Asp Gly Arg Lys Phe Gly Ser Lys
                 85                  90                  95

Tyr Leu Val Asp His Glu Val His Phe Thr Cys Asn Pro Gly Phe Arg
            100                 105                 110

Leu Val Gly Pro Ser Ser Val Val Cys Leu Pro Asn Gly Thr Trp Thr
        115                 120                 125

Gly Glu Gln Pro His Cys Arg Gly Ile Ser Glu Cys Ser Ser Gln Pro
    130                 135                 140

Cys Gln Asn Gly Gly Thr Cys Val Glu Gly Val Asn Gln Tyr Arg Cys
145                 150                 155                 160

Ile Cys Pro Pro Gly Arg Thr Gly Asn Arg Cys Gln His Gln Ala Gln
                165                 170                 175

Thr Ala Ala Pro Glu Gly Ser Val Ala Gly Asp Ser Ala Phe Ser Arg
            180                 185                 190

Ala Pro Arg Cys Ala Gln Val Glu Arg Ala Gln His Cys Ser Cys Glu
        195                 200                 205

Ala Gly Phe His Leu Ser Gly Ala Ala Gly Asp Ser Val Cys Gln Asp
    210                 215                 220

Val Asn Glu Cys Glu Leu Tyr Gly Gln Glu Gly Arg Pro Arg Leu Cys
225                 230                 235                 240

Met His Ala Cys Val Asn Thr Pro Gly Ser Tyr Arg Cys Thr Cys Pro
                245                 250                 255

Gly Gly Tyr Arg Thr Leu Ala Asp Gly Lys Ser Cys Glu Asp Val Asp
            260                 265                 270

Glu Cys Val Gly Leu Gln Pro Val Cys Pro Gln Gly Thr Thr Cys Ile
        275                 280                 285

Asn Thr Gly Gly Ser Phe Gln Cys Val Ser Pro Glu Cys Pro Glu Gly
    290                 295                 300

Ser Gly Asn Val Ser Tyr Val Lys Thr Ser Pro Phe Gln Cys Glu Arg
Ser Leu Arg His Ser Pro Lys Val Glu Thr Thr Asp Cys Pro Val Pro
145                 150                 155                 160

Pro Lys Arg Met Arg Arg Glu Ala Gly Asp Lys Arg Xaa Xaa Xaa
                165                 170                 175


<210> 624
<211> 24
<212> PRT
<213> Homo sapiens

<400> 624
Met Trp His Leu Trp Arg Arg Leu Leu Ser Cys Phe Pro Val Ala Met
 1               5                  10                  15

Leu Gln Asp Tyr Lys Tyr Ser Val
            20


<210> 625
<211> 20
<212> PRT
<213> Homo sapiens

<400> 625
Ser Cys Leu Pro Val Gly Thr Asp Pro Gln Gln Met Gln Lys His Leu
 1               5                  10                  15

Val Val Ile Lys
            20


<210> 626
<211> 24
<212> PRT
<213> Homo sapiens

<400> 626
Met Trp His Leu Trp Arg Arg Leu Leu Ser Cys Phe Pro Val Ala Met
 1               5                  10                  15

Leu Gln Asp Tyr Lys Tyr Ser Val
            20


<210> 627
<211> 439
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (358)
<223> Xaa equals any of the naturally occurring L-amino acids
```

```
Glu Thr Thr Asp Cys Pro Val Pro Pro Lys Arg Met Arg Arg Glu Ala
    130                 135                 140

Thr Arg Gln Asn Arg Ile Ile Thr Lys Thr Asp Val
145                 150                 155



<210> 623
<211> 175
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (91)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (173)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (174)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (175)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 623
Val Phe Gly Met Leu Leu Gly Asp Thr Ile Ile Leu Asp Asn Leu Asp
 1               5                  10                  15

Ala Ala Asn His Tyr Arg Lys Glu Val Val Lys Ile Thr His Cys Pro
            20                  25                  30

Thr Leu Leu Thr Arg Asp Gly Asp Arg Ile Arg Ser Asn Gly Lys Phe
        35                  40                  45

Gly Gly Leu Gln Asn Lys Ala Pro Pro Met Asp Lys Leu Arg Gly Met
    50                  55                  60

Val Phe Gly Ala Pro Val Pro Lys Gln Cys Leu Ile Leu Gly Glu Gln
65                  70                  75                  80

Ile Asp Leu Leu Gln Gln Tyr Arg Ser Ala Xaa Cys Lys Leu Asp Ser
                85                  90                  95

Val Asn Lys Asp Leu Asn Ser Gln Leu Glu Tyr Leu Arg Thr Pro Asp
            100                 105                 110

Met Arg Lys Lys Lys Gln Glu Leu Asp Glu His Glu Lys Asn Leu Lys
        115                 120                 125

Leu Ile Glu Glu Lys Leu Gly Met Thr Pro Ile Arg Lys Cys Asn Asp
    130                 135                 140
    290                 295                 300

Phe Ile Ser Ser Ser Val Ile Ile Thr Thr Thr His Cys Ser Asp Gly
305                 310                 315                 320

Ser Ile Leu Ala Ile Ala Leu Leu Ile Leu Phe Leu Leu Leu Ala Leu
                325                 330                 335

Ala Leu Leu Trp Trp Phe Trp Pro Leu Cys Cys Thr Val Ile Ile Lys
            340                 345                 350

Glu Val Pro Pro Pro Pro Ala Glu Glu Ser Glu Val Ser Asp His Ser
        355                 360                 365

Arg Met Ala Val Gly Gly Gln Gly Gly Arg Val Gly Trp Arg Ala Gly
    370                 375                 380

Trp Ala Ala Gly His Leu Ala Pro Cys Arg Ala Glu Leu Ser Gln Ala
385                 390                 395                 400

Gln Arg Ile



<210> 622
<211> 156
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (102)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 622
Val Val Lys Ile Thr His Cys Pro Thr Leu Leu Thr Arg Asp Gly Asp
  1               5                  10                  15

Arg Ile Arg Ser Asn Gly Lys Phe Gly Gly Leu Gln Asn Lys Ala Pro
            20                  25                  30

Pro Met Asp Lys Leu Arg Gly Met Val Phe Gly Ala Pro Val Pro Lys
        35                  40                  45

Gln Cys Leu Ile Leu Gly Glu Gln Ile Asp Leu Leu Gln Gln Tyr Arg
    50                  55                  60

Ser Ala Val Cys Lys Leu Asp Ser Val Asn Lys Asp Leu Asn Ser Gln
 65                  70                  75                  80

Leu Glu Tyr Leu Arg Thr Pro Asp Met Arg Lys Lys Lys Gln Glu Leu
                 85                  90                  95

Asp Glu His Glu Lys Xaa Leu Lys Leu Ile Glu Glu Lys Leu Gly Met
            100                 105                 110

Thr Pro Ile Arg Lys Cys Asn Asp Ser Leu Arg His Ser Pro Lys Val
        115                 120                 125
```

```
<211> 403
<212> PRT
<213> Homo sapiens

<400> 621
Met Ala Thr Ala Glu Arg Arg Ala Leu Gly Ile Gly Phe Gln Trp Leu
 1               5                   10                  15

Ser Leu Ala Thr Leu Val Leu Ile Cys Ala Gly Gln Gly Gly Arg Arg
             20                  25                  30

Glu Asp Gly Gly Pro Ala Cys Tyr Gly Gly Phe Asp Leu Tyr Phe Ile
         35                  40                  45

Leu Asp Lys Ser Gly Ser Val Leu His His Trp Asn Glu Ile Tyr Tyr
     50                  55                  60

Phe Val Glu Gln Leu Ala His Lys Phe Ile Ser Pro Gln Leu Arg Met
 65                  70                  75                  80

Ser Phe Ile Val Phe Ser Thr Arg Gly Thr Thr Leu Met Lys Leu Thr
                 85                  90                  95

Glu Asp Arg Glu Gln Ile Arg Gln Gly Leu Glu Glu Leu Gln Lys Val
            100                 105                 110

Leu Pro Gly Gly Asp Thr Tyr Met His Glu Gly Phe Glu Arg Ala Ser
        115                 120                 125

Glu Gln Ile Tyr Tyr Glu Asn Arg Gln Gly Tyr Arg Thr Ala Ser Val
    130                 135                 140

Ile Ile Ala Leu Thr Asp Gly Glu Leu His Glu Asp Leu Phe Phe Tyr
145                 150                 155                 160

Ser Glu Arg Glu Ala Asn Arg Ser Arg Asp Leu Gly Ala Ile Val Tyr
                165                 170                 175

Cys Val Gly Val Lys Asp Phe Asn Glu Thr Gln Leu Ala Arg Ile Ala
            180                 185                 190

Asp Ser Lys Asp His Val Phe Pro Val Asn Asp Gly Phe Gln Ala Leu
        195                 200                 205

Gln Gly Ile Ile His Ser Ile Leu Lys Lys Ser Cys Ile Glu Ile Leu
    210                 215                 220

Ala Ala Glu Pro Ser Thr Ile Cys Ala Gly Glu Ser Phe Gln Val Val
225                 230                 235                 240

Val Arg Gly Asn Gly Phe Arg His Ala Arg Asn Val Asp Arg Val Leu
                245                 250                 255

Cys Ser Phe Lys Ile Asn Asp Ser Val Thr Leu Asn Glu Lys Pro Phe
            260                 265                 270

Ser Val Glu Asp Thr Tyr Leu Leu Cys Pro Ala Pro Ile Leu Lys Glu
        275                 280                 285

Val Gly Met Lys Ala Ala Leu Gln Val Ser Met Asn Asp Gly Leu Ser
```

```
Leu Pro Gly Gly Asp Thr Tyr Met His Glu Gly Phe Glu Arg Ala Ser
        115                 120                 125

Glu Gln Ile Tyr Tyr Glu Asn Arg Gln Gly Tyr Arg Thr Ala Ser Val
    130                 135                 140

Ile Ile Ala Leu Thr Asp Gly Glu Leu His Glu Asp Leu Phe Phe Tyr
145                 150                 155                 160

Ser Glu Arg Glu Ala Asn Arg Ser Arg Asp Leu Gly Ala Ile Xaa Tyr
                165                 170                 175

Cys Val Gly Val Lys Asp Phe Asn Glu Thr Gln Leu Ala Arg Ile Ala
            180                 185                 190

Asp Ser Lys Asp His Val Phe Pro Val Asn Asp Gly Phe Gln Ala Leu
        195                 200                 205

Gln Gly Ile Ile His Ser Ile Leu Lys Lys Ser Cys Ile Glu Ile Leu
    210                 215                 220

Ala Ala Glu Pro Ser Thr Ile Cys Ala Gly Glu Ser Phe Gln Val Val
225                 230                 235                 240

Val Arg Gly Asn Gly Phe Arg His Ala Arg Asn Val Asp Arg Val Leu
                245                 250                 255

Cys Ser Phe Lys Ile Asn Asp Ser Val Thr Leu Asn Glu Lys Pro Phe
            260                 265                 270

Ser Val Glu Asp Thr Tyr Leu Leu Cys Pro Ala Pro Ile Leu Lys Glu
        275                 280                 285

Val Gly Met Lys Ala Ala Leu Gln Val Ser Met Asn Asp Gly Leu Ser
    290                 295                 300

Phe Ile Ser Ser Ser Val Ile Ile Thr Thr Thr His Cys Ser Asp Xaa
305                 310                 315                 320

Ser Ile Leu Ala Ile Ala Leu Leu Ile Leu Xaa Leu Leu Leu Ala Leu
                325                 330                 335

Ala Leu Leu Trp Trp Phe Trp Pro Leu Cys Cys Thr Val Ile Ile Lys
            340                 345                 350

Glu Val Pro Pro Pro Pro Ala Glu Glu Ser Glu Val Ser Asp His Xaa
        355                 360                 365

Arg Met Ala Val Gly Gly Gln Gly Gly Arg Val Gly Trp Arg Ala Gly
    370                 375                 380

Trp Ala Ala Gly His Leu Ala Pro Cys Arg Ala Glu Leu Ser Gln Ala
385                 390                 395                 400

Gln Arg Ile


<210> 621
```

```
        35                  40                  45

Thr Thr Ala Ile Gly Phe Ala Ser Val Met Cys Ser Tyr Leu Leu Asp
    50                  55                  60

Phe Gln Asn Ile Lys Lys Lys Lys Arg Ala Ala Ala Leu Glu Asp Pro
65                  70                  75                  80

Ser Leu Arg Thr Arg Ala Cys Asp Asn Ile Ala Arg Arg
                85                  90
```

```
<210> 620
<211> 403
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (175)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (320)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (331)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (368)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 620
Met Ala Thr Ala Glu Arg Arg Ala Leu Gly Ile Gly Phe Gln Trp Leu
 1               5                  10                  15

Ser Leu Ala Thr Leu Val Leu Ile Cys Ala Gly Gln Gly Gly Arg Arg
            20                  25                  30

Glu Asp Gly Gly Pro Ala Cys Tyr Gly Gly Phe Asp Leu Tyr Phe Ile
        35                  40                  45

Leu Asp Lys Ser Gly Ser Val Leu His His Trp Asn Glu Ile Tyr Tyr
    50                  55                  60

Phe Val Glu Gln Leu Ala His Lys Phe Ile Ser Pro Gln Leu Arg Met
65                  70                  75                  80

Ser Phe Ile Val Phe Ser Thr Arg Gly Thr Thr Leu Met Lys Leu Thr
                85                  90                  95

Glu Asp Arg Glu Gln Ile Arg Gln Gly Leu Glu Glu Leu Gln Lys Val
            100                 105                 110
```

<211> 18
<212> PRT
<213> Homo sapiens

<400> 616
Met Val Arg Thr Leu Ser Leu Ala Val Leu Ser Trp Leu Pro Ala Ala
1 5 10 15

Val Cys

<210> 617
<211> 42
<212> PRT
<213> Homo sapiens

<400> 617
Met Leu Leu Ser Trp Thr Val Leu Ile Ile Ile Leu Pro Phe Ala Gly
1 5 10 15

Asp Val Ser Ser His Leu Cys Ile Leu Arg Pro Phe Ala Gly Ser Val
20 25 30

Ser Ser Cys Leu Ser Asn Phe Lys Arg Ile
35 40

<210> 618
<211> 42
<212> PRT
<213> Homo sapiens

<400> 618
Met Leu Leu Ser Trp Thr Val Leu Ile Ile Ile Leu Pro Phe Ala Gly
1 5 10 15

Asp Val Ser Ser His Leu Cys Ile Leu Arg Pro Phe Ala Gly Ser Val
20 25 30

Ser Ser Cys Leu Ser Asn Phe Lys Arg Ile
35 40

<210> 619
<211> 93
<212> PRT
<213> Homo sapiens

<400> 619
Ser Ala Ser Cys Trp Asn Ala Asn Phe Leu Pro Arg Asn Gln Gly Arg
1 5 10 15

Lys Leu His Cys Cys Ala Lys Lys Lys Lys Lys Pro Ser Leu His Thr
20 25 30

Leu Lys Pro Phe Leu Asn Pro Ser Arg Glu Ser Thr Val Ala Ser Ser

```
    50                  55                  60

Leu Met Ser Gln Ser Phe Gly Ser Pro Asn Lys Lys His Val Gly Val
65                  70                  75                  80

Ile Leu Gln Arg Gly Ala Leu Val Leu Leu Leu Cys Cys Leu Pro Cys
                85                  90                  95

Trp Ala Leu Phe Leu Asn Thr Gln His Ile Leu Leu Leu Phe Arg Gln
            100                 105                 110

Asp Pro Asp Val Ser Arg Leu Thr Gln Asp Tyr Val Met Ile Phe Ile
        115                 120                 125

Pro Gly Leu Pro Val Ile Phe Leu Tyr Asn Leu Leu Ala Lys Tyr Leu
    130                 135                 140

Gln Asn Gln Val Gln Val Phe Glu Cys Val Gly Arg Pro Phe Ser Gln
145                 150                 155                 160

His Thr Ala Leu Phe Gln Trp Glu Gly Gly Leu Gly Leu Ser Pro Ser
                165                 170                 175

Leu His His Leu
            180



<210> 614
<211> 38
<212> PRT
<213> Homo sapiens

<400> 614
Glu Lys Lys Lys Lys Lys Lys Lys Arg Pro Gly Ala Val Ala His Ala
 1               5                  10                  15

Leu Ile Pro Ala Leu Trp Glu Thr Glu Ala Gly Gly Ser Pro Glu Val
            20                  25                  30

Gly Ser Ser Arg Pro Ala
        35



<210> 615
<211> 18
<212> PRT
<213> Homo sapiens

<400> 615
Met Val Arg Thr Leu Ser Leu Ala Val Leu Ser Trp Leu Pro Ala Ala
 1               5                  10                  15

Val Cys



<210> 616
```

130 135 140

Gln Asn Gln Val Gln Val Phe Ser Val Trp Gly Gly Pro Ser Xaa Ser
145 150 155 160

Thr Leu Pro Tyr Ser Ser Gly Arg Gly Ala Trp Gly Phe Pro Xaa Leu
165 170 175

Ser Thr Ile Cys Glu Pro Ala Leu Glu Arg Gly Ser Leu Pro Thr His
180 185 190

Leu Pro Tyr
195

<210> 611
<211> 37
<212> PRT
<213> Homo sapiens

<400> 611
Leu Ala Gly Pro Val Phe Ile Tyr Phe Arg Arg Ser Pro Gly Pro Lys
1 5 10 15

Ser Ser Val Val Trp Trp Ala Thr Val Ser Thr Val Trp Pro Thr Met
20 25 30

Pro Trp Phe Leu Cys
35

<210> 612
<211> 3
<212> PRT
<213> Homo sapiens

<400> 612
Ile Pro Gly
1

<210> 613
<211> 180
<212> PRT
<213> Homo sapiens

<400> 613
Met Trp Thr Leu Phe Ala Leu Ser Gly Pro Leu Phe Leu Phe Gln Val
1 5 10 15

Leu Thr Phe Met Ile Tyr Ile Val Ser Thr Val Phe Cys Gly His Leu
20 25 30

Gly Lys Val Glu Leu Ala Ser Val Thr Leu Ala Val Ala Phe Val Asn
35 40 45

Val Cys Gly Val Ser Val Gly Val Gly Leu Ser Ser Ala Cys Asp Thr

```
225                 230                 235                 240

Val Leu Pro Phe His Pro Tyr Val Glu Asn Val Gly Gly Lys Trp Glu
                245                 250                 255

Lys Pro Ser Glu Ile Leu Glu Ile Lys Gly Gln Asn Trp Glu Glu Gln
            260                 265                 270

Val Asn Ser Leu Pro Glu Val Phe Arg Lys Ala Gly Phe Val Ile Glu
        275                 280                 285

Ala Phe Thr Arg Leu Pro Tyr Leu Cys Glu Gly Asp Met Tyr Asn Ala
    290                 295                 300

Tyr Tyr Val Leu Asp Asp Ala Val Phe Val Leu Lys Pro Val
305                 310                 315



<210> 610
<211> 195
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (159)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (175)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 610
Met Trp Thr Leu Phe Ala Leu Ser Gly Pro Leu Phe Leu Phe Gln Val
  1               5                  10                  15

Leu Thr Phe Met Ile Tyr Ile Val Ser Thr Val Phe Cys Gly His Leu
             20                  25                  30

Gly Lys Val Glu Leu Ala Ser Val Thr Leu Ala Val Ala Phe Val Asn
         35                  40                  45

Val Cys Gly Val Ser Val Gly Val Gly Leu Ser Ser Ala Cys Asp Thr
     50                  55                  60

Leu Met Ser Gln Ser Phe Gly Ser Pro Asn Lys Lys His Val Gly Val
 65                  70                  75                  80

Ile Leu Gln Arg Gly Ala Leu Val Leu Leu Leu Cys Cys Leu Pro Cys
                 85                  90                  95

Trp Ala Leu Phe Leu Asn Thr Gln His Ile Leu Leu Leu Phe Arg Gln
            100                 105                 110

Asp Pro Asp Val Ser Arg Leu Thr Gln Asp Tyr Val Met Ile Phe Ile
        115                 120                 125

Pro Gly Leu Pro Val Ile Phe Leu Tyr Asn Leu Leu Ala Lys Tyr Leu
```

```
Val Asn Ser Leu Pro Glu Val Phe Arg Lys Ala Gly Phe Val Ile Glu
        275                 280                 285

Ala Phe Thr Arg Leu Pro Tyr Leu Cys Glu Gly Asp Met Tyr Asn Asp
    290                 295                 300

Tyr Tyr Val Leu Asp Asp Ala Val Phe Val Leu Lys Pro Val
305                 310                 315



<210> 609
<211> 318
<212> PRT
<213> Homo sapiens

<400> 609
Met Arg Leu Leu Ala Gly Trp Leu Cys Leu Ser Leu Ala Ser Val Trp
 1               5                   10                  15

Leu Ala Arg Arg Met Trp Thr Leu Arg Ser Pro Leu Thr Arg Ser Leu
             20                  25                  30

Tyr Val Asn Met Thr Ser Gly Pro Gly Gly Pro Ala Ala Ala Ala Gly
         35                  40                  45

Gly Arg Lys Glu Asn His Gln Trp Tyr Val Cys Asn Arg Glu Lys Leu
     50                  55                  60

Cys Glu Ser Leu Gln Ala Val Phe Val Gln Ser Tyr Leu Asp Gln Gly
 65                  70                  75                  80

Thr Gln Ile Phe Leu Asn Asn Ser Ile Glu Lys Ser Gly Trp Leu Phe
                 85                  90                  95

Ile Gln Leu Tyr His Ser Phe Val Ser Ser Val Phe Ser Leu Phe Met
            100                 105                 110

Ser Arg Thr Ser Ile Asn Gly Leu Leu Gly Arg Gly Ser Met Phe Val
        115                 120                 125

Phe Ser Pro Asp Gln Phe Gln Arg Leu Leu Lys Ile Asn Pro Asp Trp
    130                 135                 140

Lys Thr His Arg Leu Leu Asp Leu Gly Ala Gly Asp Gly Glu Val Thr
145                 150                 155                 160

Lys Ile Met Ser Pro His Phe Glu Glu Ile Tyr Ala Thr Glu Leu Ser
                165                 170                 175

Glu Thr Met Ile Trp Gln Leu Gln Lys Lys Lys Tyr Arg Val Leu Gly
            180                 185                 190

Ile Asn Glu Trp Gln Asn Thr Gly Phe Gln Tyr Asp Val Ile Ser Cys
        195                 200                 205

Leu Asn Leu Leu Asp Arg Cys Asp Gln Pro Leu Thr Leu Leu Lys Asp
    210                 215                 220

Ile Arg Ser Val Leu Glu Pro Thr Arg Gly Arg Val Ile Leu Ala Leu
```

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<210> 608
<211> 318
<212> PRT
<213> Homo sapiens

<400> 608
Met Arg Leu Leu Ala Gly Trp Leu Cys Leu Ser Leu Ala Ser Val Trp
  1               5                  10                  15

Leu Ala Arg Arg Met Trp Thr Leu Arg Ser Pro Leu Thr Arg Ser Leu
             20                  25                  30

Tyr Val Asn Met Thr Ser Gly Pro Gly Gly Pro Ala Ala Ala Ala Gly
         35                  40                  45

Gly Arg Lys Glu Asn His Gln Trp Tyr Val Cys Asn Arg Glu Lys Leu
     50                  55                  60

Cys Glu Ser Leu Gln Ala Val Phe Val Gln Ser Tyr Leu Asp Gln Gly
 65                  70                  75                  80

Thr Gln Ile Phe Leu Asn Asn Ser Ile Glu Lys Ser Gly Trp Leu Phe
                 85                  90                  95

Ile Gln Leu Tyr His Ser Phe Val Ser Ser Val Phe Ser Leu Phe Met
            100                 105                 110

Ser Arg Thr Ser Ile Asn Gly Leu Leu Gly Arg Gly Ser Met Phe Val
        115                 120                 125

Phe Ser Pro Asp Gln Phe Gln Arg Leu Leu Lys Ile Asn Pro Asp Trp
    130                 135                 140

Lys Thr His Arg Leu Leu Asp Leu Gly Ala Gly Asp Gly Glu Val Thr
145                 150                 155                 160

Lys Ile Met Ser Pro His Phe Glu Glu Ile Tyr Ala Thr Glu Leu Ser
                165                 170                 175

Glu Thr Met Ile Trp Gln Leu Gln Lys Lys Lys Tyr Arg Val Leu Gly
            180                 185                 190

Ile Asn Glu Trp Gln Asn Thr Gly Phe Gln Tyr Asp Val Ile Ser Cys
        195                 200                 205

Leu Asn Leu Leu Asp Arg Cys Asp Gln Pro Leu Thr Leu Leu Lys Asp
    210                 215                 220

Ile Arg Ser Val Leu Glu Pro Thr Arg Gly Arg Val Ile Leu Ala Leu
225                 230                 235                 240

Val Leu Pro Phe His Pro Tyr Val Glu Asn Val Gly Gly Lys Trp Glu
                245                 250                 255

Lys Pro Ser Glu Ile Leu Glu Ile Lys Gly Gln Asn Trp Glu Glu Gln
            260                 265                 270
```

```
<210> 606
<211> 60
<212> PRT
<213> Homo sapiens

<400> 606
Met Leu Ser Ala Val Leu Thr Met Leu Arg Phe Ile Ile Ala Phe Ser
 1               5                   10                  15

Leu Leu Phe Cys Ser Cys Ser Thr Asp Lys His Cys Thr Trp Tyr His
             20                  25                  30

Ala Leu Pro His Phe Lys Lys Ile Cys Leu Thr Glu Arg Lys Lys Met
         35                  40                  45

Trp Phe Gly Leu Ala Ala Val Leu Ile Tyr Gly Ile
     50                  55                  60



<210> 607
<211> 97
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (87)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (92)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 607
Leu Gly Ala Glu His Phe Lys Cys Ile Thr Trp Val Ala Gly Trp Ala
 1               5                   10                  15

Val Pro Gly Leu Lys Gly Val Gly Ser Phe Phe Gln Gly Ala Pro Ser
             20                  25                  30

Ala Ser Trp His Arg Thr Leu Ala Pro Ala His Pro Lys Leu Thr Leu
         35                  40                  45

Val Gly Val Gly Pro Leu Thr Gln Thr Trp Pro Leu Pro Ser Leu Val
     50                  55                  60

Leu Leu Pro Gln Leu Ser Pro Val Cys Gly Arg Val Cys Leu Asp Arg
 65                  70                  75                  80

Leu Trp Ala Gly Gln Gly Xaa Gly Gln Ala Glu Xaa Glu Phe Val Leu
                 85                  90                  95

Gly
```

```
<400> 602
Met Gly Val Ala Leu Pro Ser Pro Leu Leu Cys Ser Leu Pro Leu Phe
 1               5                   10                  15

Leu Leu Phe Gly Asp Val Ser Gly Ser Ser Ser Leu Leu Ala Leu Leu
             20                  25                  30

Pro Phe Leu His Pro Trp His His Pro Ser Leu Ser
         35                  40


<210> 603
<211> 44
<212> PRT
<213> Homo sapiens

<400> 603
Met Gly Val Ala Leu Pro Ser Pro Leu Leu Cys Ser Leu Pro Leu Phe
 1               5                   10                  15

Leu Leu Phe Gly Asp Val Ser Gly Ser Ser Ser Leu Leu Ala Leu Leu
             20                  25                  30

Pro Phe Leu His Pro Trp His His Pro Ser Leu Ser
         35                  40


<210> 604
<211> 60
<212> PRT
<213> Homo sapiens

<400> 604
Met Leu Ser Ala Val Leu Thr Met Leu Arg Phe Ile Ile Ala Phe Ser
 1               5                   10                  15

Leu Leu Phe Cys Ser Cys Ser Thr Asp Lys His Cys Thr Trp Tyr His
             20                  25                  30

Ala Leu Pro His Phe Lys Lys Ile Cys Leu Thr Glu Arg Lys Lys Met
         35                  40                  45

Trp Phe Gly Leu Ala Ala Val Leu Ile Tyr Gly Ile
     50                  55                  60


<210> 605
<211> 17
<212> PRT
<213> Homo sapiens

<400> 605
Ile Thr Phe Ser Cys Phe Phe Cys Asn Asn Cys Ser Gln Val Asn Leu
 1               5                   10                  15

Gln
```

```
 1               5                   10                  15

Asn Asn Leu Tyr Ala Ser Glu Arg Glu Gln Ile Phe Ser Asn Phe Leu
            20                  25                  30

Gln Leu Ser Ser Leu Lys Arg Arg Ile Cys
        35                  40



<210> 601
<211> 86
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (6)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (21)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (31)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (76)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 601
Leu Gly Ser Pro Glu Xaa Ala Gln Lys Val Asp Ile Thr Ser Ala His
 1               5                   10                  15

Phe Ile Gly Gln Xaa Ser Arg Pro Ser Asp Phe Ala Gln Val Xaa Ser
            20                  25                  30

Leu Glu Gly Ser Arg Pro Val Ile Trp Ser Leu Asn Gly Trp Thr Leu
        35                  40                  45

Lys Glu Thr Pro Arg Ala Asp Gly Val Phe Thr Glu Thr Ala Gly Gln
    50                  55                  60

Gly Leu Gly Thr Ala Gln Gly His Leu Leu Trp Xaa Ala Ala Ala Thr
65                  70                  75                  80

Gly Ser Pro Asp Cys Ser
                85



<210> 602
<211> 44
<212> PRT
<213> Homo sapiens
```

```
Val Lys Val Phe Phe Cys Leu Phe Val Cys Phe Ser Ile Leu Ser Ser
             20                  25                  30

Ser Arg Arg Gly Ser Leu Ala Asn Asn Ser Ser Trp
         35                  40



<210> 597
<211> 44
<212> PRT
<213> Homo sapiens

<400> 597
Met Lys Lys Glu Met Val Leu Leu Thr Thr Thr Tyr Phe Ser Leu His
 1               5                   10                  15

Val Lys Val Phe Phe Cys Leu Phe Val Cys Phe Ser Ile Leu Ser Ser
             20                  25                  30

Ser Arg Arg Gly Ser Leu Ala Asn Asn Ser Ser Trp
         35                  40



<210> 598
<211> 42
<212> PRT
<213> Homo sapiens

<400> 598
Met Phe Thr Leu Leu Leu Ser Ser Phe Phe Leu Gln His Cys Leu Gln
 1               5                   10                  15

Asn Asn Leu Tyr Ala Ser Glu Arg Glu Gln Ile Phe Ser Asn Phe Leu
             20                  25                  30

Gln Leu Ser Ser Leu Lys Arg Arg Ile Cys
         35                  40



<210> 599
<211> 6
<212> PRT
<213> Homo sapiens

<400> 599
Leu Leu Leu Ser Ser Phe
 1               5



<210> 600
<211> 42
<212> PRT
<213> Homo sapiens

<400> 600
Met Phe Thr Leu Leu Leu Ser Ser Phe Phe Leu Gln His Cys Leu Gln
```

```
Arg Pro Gln Phe Ala Arg Ser Leu Ser Ala Ala Pro Gln Leu Ser Asp
             20                  25                  30

Thr Ala Asp Thr Met Gly Phe Gly Asp Leu Lys Ser Pro Ala Gly Leu
         35                  40                  45

Gln Val Leu Asn Asp Tyr Leu Ala Asp Lys Ser Tyr Ile Glu Gly Tyr
     50                  55                  60

Val Pro Ser Gln Ala Asp Val Ala Val Phe Glu Ala Val Ser Ser Pro
 65                  70                  75                  80

Pro Pro Ala Asp Leu Cys His Ala Leu Arg Trp Tyr Asn His Ile Lys
                 85                  90                  95

Ser Tyr Glu Lys Glu Lys Ala Ser Leu Pro Gly Val Lys Lys Ala Leu
            100                 105                 110

Gly Lys Tyr Gly Pro Ala Asp Val Glu Asp Thr Thr Gly Ser Gly Ala
        115                 120                 125

Thr Asp Ser Lys Asp Asp Asp Asp Ile Asp Leu Phe Gly Ser Asp Asp
    130                 135                 140

Glu Glu Glu Ser Glu Glu Ala Lys Arg Leu Arg Glu Glu Arg Leu Ala
145                 150                 155                 160

Gln Tyr Glu Ser Lys Lys Ala Lys Lys Pro Ala Leu Val Ala Lys Ser
                165                 170                 175

Ser Ile Leu Leu Asp Val Lys Pro Trp Asp Asp Glu Thr Asp Met Ala
            180                 185                 190

Lys Leu Glu Glu Cys Val Arg Ser Ile Gln Ala Asp Gly Leu Val Trp
        195                 200                 205

Gly Ser Ser Lys Leu Val Pro Val Gly Tyr Gly Ile Lys Lys Leu Gln
    210                 215                 220

Ile Gln Cys Val Val Glu Asp Asp Lys Val Gly Thr Asp Met Leu Glu
225                 230                 235                 240

Glu Gln Ile Thr Ala Phe Glu Asp Tyr Val Gln Ser Met Asp Val Ala
                245                 250                 255

Ala Phe Asn Lys Ile
            260


<210> 596
<211> 44
<212> PRT
<213> Homo sapiens

<400> 596
Met Lys Lys Glu Met Val Leu Leu Thr Thr Thr Tyr Phe Ser Leu His
 1               5                   10                  15
```

```
    290                 295                 300

Gly Ala Pro Pro Leu Pro Pro Ile Pro Arg
305                 310



<210> 593
<211> 55
<212> PRT
<213> Homo sapiens

<400> 593
Met Glu Ser Ser Thr Gly Lys Ala Ser Pro Arg Cys His Ile His Cys
 1               5                  10                  15

Val Pro Pro Phe Pro Pro Pro Cys Pro Val Lys Arg Val Gly Arg Leu
            20                  25                  30

Phe Leu Phe Phe Gln His Phe Pro Gln Gly Thr Val Ile Ile Pro Leu
        35                  40                  45

Met Pro Ser Pro Pro Leu Asp
    50                  55



<210> 594
<211> 53
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (23)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 594
Phe Ile Ile His Ser Ile Ser Pro Val Ala Leu Asn Pro Gln Ala His
 1               5                  10                  15

Asp Leu Pro Phe Ser Leu Xaa Ser Cys Val Ser Val Phe Asn Leu Arg
            20                  25                  30

Ser Phe Pro Thr Met Asp Ser Cys Thr Thr Leu Asn Glu Thr Ser Ile
        35                  40                  45

Phe Gln Arg Arg Val
    50



<210> 595
<211> 261
<212> PRT
<213> Homo sapiens

<400> 595
Gly Ile Phe Arg Ser Leu Arg Val Leu Phe Pro Leu Phe Ser Val Gly
 1               5                  10                  15
```

```
<221> SITE
<222> (129)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 592
Tyr Ser Lys Thr His Ser Ile Lys Ser Ala Gln Pro Gly Val Pro Thr
 1               5                  10                  15

Ser Ala Arg Ser Pro Arg Gln Pro Ser Pro Gly Pro Thr Pro Pro Pro
            20                  25                  30

Phe Pro Gly Asn Arg Gly Thr Ala Leu Gly Gly Gly Ser Ile Arg Gln
        35                  40                  45

Ser Pro Leu Ser Ser Ser Ser Pro Phe Ser Asn Arg Pro Pro Leu Pro
    50                  55                  60

Pro Thr Pro Ser Arg Ala Leu Asp Asp Lys Pro Pro Pro Pro Pro Pro
65                  70                  75                  80

Pro Val Gly Asn Arg Pro Ser Ile His Arg Glu Ala Val Pro Pro Pro
                85                  90                  95

Pro Pro Gln Asn Asn Lys Pro Pro Val Pro Ser Thr Pro Arg Pro Ser
            100                 105                 110

Ala Ala Ser Gln Ala Pro Pro Pro Pro Pro Pro Pro Ser Arg Pro Gly
        115                 120                 125

Xaa Pro Pro Leu Pro Pro Ser Ser Ser Gly Asn Asp Glu Thr Pro Arg
    130                 135                 140

Leu Pro Gln Arg Asn Leu Ser Leu Ser Ser Ser Thr Pro Pro Leu Pro
145                 150                 155                 160

Ser Pro Gly Arg Ser Gly Pro Leu Pro Pro Pro Pro Ser Glu Arg Pro
                165                 170                 175

Pro Pro Pro Val Arg Asp Pro Pro Gly Arg Ser Gly Pro Leu Pro Pro
            180                 185                 190

Pro Pro Pro Val Ser Arg Asn Gly Ser Thr Ser Arg Ala Leu Pro Ala
        195                 200                 205

Thr Pro Gln Leu Pro Ser Arg Ser Gly Val Asp Ser Pro Arg Ser Gly
    210                 215                 220

Pro Arg Pro Pro Leu Pro Pro Asp Arg Pro Ser Ala Gly Ala Pro Pro
225                 230                 235                 240

Pro Pro Pro Pro Ser Thr Ser Ile Arg Asn Gly Phe Gln Asp Ser Pro
                245                 250                 255

Cys Glu Asp Glu Trp Glu Ser Arg Phe Tyr Phe His Pro Ile Ser Asp
            260                 265                 270

Leu Pro Pro Pro Glu Pro Tyr Val Gln Thr Thr Lys Ser Tyr Pro Ser
        275                 280                 285

Lys Leu Ala Arg Asn Glu Ser Arg Ser Gly Ser Asn Arg Arg Glu Arg
```

<210> 589
<211> 23
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (5)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 589
Met Arg Val Thr Xaa Ser Ser His Pro Cys Gln Arg Leu Val Leu Gln
1 5 10 15

Cys Ser Gly Phe Trp Leu Phe
20

<210> 590
<211> 27
<212> PRT
<213> Homo sapiens

<400> 590
Met Arg Val Thr Val Ser Ser His Pro Cys Gln Arg Leu Val Leu Ser
1 5 10 15

Val Phe Trp Leu Leu Ala Ile Leu Ile Gly Val
20 25

<210> 591
<211> 55
<212> PRT
<213> Homo sapiens

<400> 591
Met Glu Ser Ser Thr Gly Lys Ala Ser Pro Arg Cys His Ile His Cys
1 5 10 15

Val Pro Pro Phe Pro Pro Pro Cys Pro Val Lys Arg Val Gly Arg Leu
20 25 30

Phe Leu Phe Phe Gln His Phe Pro Gln Gly Thr Val Ile Ile Pro Leu
35 40 45

Met Pro Ser Pro Pro Leu Asp
50 55

<210> 592
<211> 314
<212> PRT
<213> Homo sapiens

<220>

```
Ala Gly Gly Glu Gly Lys His Ile Thr Val Phe Lys Thr Tyr Ile Ser
        115                 120                 125

Pro Trp Glu Arg Ala Met Gly Val Asp Pro Gln Gln Lys Met Glu Leu
    130                 135                 140

Gly Ile Asp Leu Leu Ala Tyr Gly Ala Lys Ala Glu Leu Pro Lys Tyr
145                 150                 155                 160

Lys Ser Phe Asn Arg Thr Ala Met Pro Tyr Gly Gly Tyr Glu Lys Ala
                165                 170                 175

Ser Lys Arg Met Thr Phe Gln Met Pro Lys Phe Asp Leu Gly Pro Leu
            180                 185                 190

Leu Ser Glu Pro Leu Val Leu Tyr Asn Gln Asn Leu Ser Asn Arg Pro
        195                 200                 205

Ser Phe Asn Arg Thr Pro Ile Pro Trp Leu Ser Ser Gly Glu Pro Val
    210                 215                 220

Asp Tyr Asn Val Asp Ile Gly Ile Pro Leu Asp Gly Glu Thr Glu Glu
225                 230                 235                 240

Leu



<210> 587
<211> 17
<212> PRT
<213> Homo sapiens

<400> 587
Arg Phe Pro Ile Ser Pro His Pro Tyr Gln His Ala Phe Leu Phe Phe
  1               5                  10                  15

Phe



<210> 588
<211> 39
<212> PRT
<213> Homo sapiens

<400> 588
Leu Arg Val Ala Val Gly Leu Cys Pro Arg Asp Ala Leu Leu Leu Ser
  1               5                  10                  15

Pro Pro Arg Val Val Val Cys Gly Val Thr Asp Val Val Val Asp Lys
             20                  25                  30

Gly Val Gly Leu Leu Val Val
         35
```

```
                 85                  90                  95

Gly Ala Ala Gly Thr Ala Gly Val Gly Glu Thr Gly Ser Gly Asp Gln
            100                 105                 110

Ala Gly Gly Glu Gly Lys His Ile Thr Val Phe Lys Thr Tyr Ile Ser
        115                 120                 125

Pro Trp Glu Arg Ala Met Gly Val Asp Pro Gln Gln Lys Met Glu Leu
    130                 135                 140

Gly Ile Asp Leu Leu Ala Tyr Gly Ala Lys Ala Glu Leu Pro Lys Tyr
145                 150                 155                 160

Lys Ser Phe Asn Arg Thr Ala Met Pro Tyr Gly Gly Tyr Glu Lys Ala
                165                 170                 175

Ser Lys Arg Met Thr Phe Gln Met Pro Lys Phe Asp Leu Gly Pro Leu
            180                 185                 190

Leu Ser Glu Pro Leu Val Leu Tyr Asn Gln Asn Leu Ser Asn Arg Pro
        195                 200                 205

Ser Phe Asn Arg Thr Pro Ile Pro Trp Leu Ser Ser Gly Glu Pro Val
    210                 215                 220

Asp Tyr Asn Val Asp Ile Gly Ile Pro Leu Asp Gly Glu Thr Glu Glu
225                 230                 235                 240

Leu



<210> 586
<211> 241
<212> PRT
<213> Homo sapiens

<400> 586
Met Phe Lys Leu Arg Gln Met Arg Val Glu Lys Phe Ile Tyr Glu Asn
  1               5                  10                  15

His Pro Asp Val Phe Ser Asp Ser Ser Met Asp His Phe Gln Lys Phe
             20                  25                  30

Leu Pro Thr Val Gly Gly Gln Leu Gly Thr Ala Gly Gln Gly Phe Ser
         35                  40                  45

Tyr Ser Lys Ser Asn Gly Arg Gly Gly Ser Gln Ala Gly Gly Ser Gly
     50                  55                  60

Ser Ala Gly Gln Tyr Gly Ser Asp Gln Gln His His Leu Gly Ser Gly
 65                  70                  75                  80

Ser Gly Ala Gly Gly Thr Gly Gly Pro Ala Gly Gln Ala Gly Arg Gly
                 85                  90                  95

Gly Ala Ala Gly Thr Ala Gly Val Gly Glu Thr Gly Ser Gly Asp Gln
            100                 105                 110
```

```
<211> 41
<212> PRT
<213> Homo sapiens

<400> 583
Met Leu Val Ser Met Cys Met Gly Leu Leu Phe Leu Gln Val Gly Lys
 1               5                   10                  15

Gln Cys Ile Ala Phe Phe Tyr Thr Glu Ser Thr Arg Arg Pro Lys His
            20                  25                  30

Leu Lys Thr Met Gly Ser Gly Tyr Ala
        35                  40



<210> 584
<211> 41
<212> PRT
<213> Homo sapiens

<400> 584
Met Leu Val Ser Met Cys Met Gly Leu Leu Phe Leu Gln Val Gly Lys
 1               5                   10                  15

Gln Cys Ile Ala Phe Phe Tyr Thr Glu Ser Thr Arg Arg Pro Lys His
            20                  25                  30

Leu Lys Thr Met Gly Ser Gly Tyr Ala
        35                  40



<210> 585
<211> 241
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (58)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 585
Met Phe Lys Leu Arg Gln Met Arg Val Glu Lys Phe Ile Tyr Glu Asn
 1               5                   10                  15

His Pro Asp Val Phe Ser Asp Ser Ser Met Asp His Phe Gln Lys Phe
            20                  25                  30

Leu Pro Thr Val Gly Gly Gln Leu Gly Thr Ala Gly Gln Gly Phe Ser
        35                  40                  45

Tyr Ser Lys Ser Asn Gly Arg Gly Gly Xaa Gln Ala Gly Gly Ser Gly
    50                  55                  60

Ser Ala Gly Gln Tyr Gly Ser Asp Gln Gln His His Leu Gly Ser Gly
65                  70                  75                  80

Ser Gly Ala Gly Gly Thr Gly Gly Pro Ala Gly Gln Ala Gly Arg Gly
```

<211> 61
<212> PRT
<213> Homo sapiens

<400> 580
Met Lys Ser Ala Leu His Arg Asp Ile Cys Ile Leu Met Leu Thr Ala
1 5 10 15

Ala Leu Phe Thr Ile Ala Lys Thr Glu Lys Gln His Lys Cys Pro Ser
20 25 30

Ile Asp Glu Gln Ile Asn Asn Leu Gln Tyr Ile Cys Thr Met Glu Tyr
35 40 45

His Ser Ala Leu Gln Lys Glu Met Leu Leu Tyr Leu Gln
50 55 60

<210> 581
<211> 61
<212> PRT
<213> Homo sapiens

<400> 581
Met Lys Ser Ala Leu His Arg Asp Ile Cys Ile Leu Met Leu Thr Ala
1 5 10 15

Ala Leu Phe Thr Ile Ala Lys Thr Glu Lys Gln His Lys Cys Pro Ser
20 25 30

Ile Asp Glu Gln Ile Asn Asn Leu Gln Tyr Ile Cys Thr Met Glu Tyr
35 40 45

His Ser Ala Leu Gln Lys Glu Met Leu Leu Tyr Leu Gln
50 55 60

<210> 582
<211> 61
<212> PRT
<213> Homo sapiens

<400> 582
Met Lys Ser Ala Leu His Arg Asp Ile Cys Ile Leu Met Leu Thr Ala
1 5 10 15

Ala Leu Phe Thr Ile Ala Lys Thr Glu Lys Gln His Lys Cys Pro Ser
20 25 30

Ile Asp Glu Gln Ile Asn Asn Leu Gln Tyr Ile Cys Thr Met Glu Tyr
35 40 45

His Ser Ala Leu Gln Lys Glu Met Leu Leu Tyr Leu Gln
50 55 60

<210> 583

```
     50                  55                  60

Gln Leu Ser Arg Glu Val Pro Ser Cys Gln Gly Lys Pro Arg Leu Gly
 65                  70                  75                  80

Arg Pro Pro Tyr Lys Glu Pro Gln Asp Cys Ser His Gly Cys His Leu
                85                  90                  95

Ser Trp Lys Gly Arg Phe Met Gly Phe Pro Gly Thr Pro Arg Leu Ser
            100                 105                 110

Trp Pro Arg Gly Lys Arg Trp Leu Leu Gln Glu Phe Asp Leu Ser
        115                 120                 125



<210> 578
<211> 9
<212> PRT
<213> Homo sapiens

<400> 578
Leu Gly Lys Pro Trp Arg Tyr Pro Thr
  1               5



<210> 579
<211> 127
<212> PRT
<213> Homo sapiens

<400> 579
Met Gly Gln Val Trp Arg Val Pro Pro Leu Leu Leu Ser Val Gln Val
  1               5                  10                  15

Phe Leu Thr Met Ala His Ala Phe His Gln Ala Pro Glu Leu Gln Trp
            20                  25                  30

Leu Gly Leu Trp Phe Trp Val Arg Leu Phe Ala Gly Gly Asp Gly Gly
        35                  40                  45

Leu His Leu Asn Ile Ser Ser Val Thr Leu Pro Leu Leu His Gly Lys
    50                  55                  60

Gln Leu Ser Arg Glu Val Pro Ser Cys Gln Gly Lys Pro Arg Leu Gly
 65                  70                  75                  80

Arg Pro Pro Tyr Lys Glu Pro Gln Asp Cys Ser His Gly Cys His Leu
                85                  90                  95

Ser Trp Lys Gly Arg Phe Met Gly Phe Pro Gly Thr Pro Arg Leu Ser
            100                 105                 110

Trp Pro Arg Gly Lys Arg Trp Leu Leu Gln Glu Phe Asp Leu Ser
        115                 120                 125


<210> 580
```

```
<210> 575
<211> 60
<212> PRT
<213> Homo sapiens

<400> 575
Met Ser Arg Phe Ser Gln Asn Phe Arg Gly Lys Glu Asp His Ile Val
 1               5                  10                  15

Phe Leu Phe Cys Phe Asn Glu Ile Phe Phe Leu Leu Leu Met Leu Leu
            20                  25                  30

Val Phe Pro Trp Leu Leu Ser Lys Ala Val Ser Gly Phe Ala Glu Arg
        35                  40                  45

Leu Glu Met Thr Thr Ile Phe Arg Val Ser Arg Ser
    50                  55                  60


<210> 576
<211> 60
<212> PRT
<213> Homo sapiens

<400> 576
Met Ser Arg Phe Ser Gln Asn Phe Arg Gly Lys Glu Asp His Ile Val
 1               5                  10                  15

Phe Leu Phe Cys Phe Asn Glu Ile Phe Phe Leu Leu Leu Met Leu Leu
            20                  25                  30

Val Phe Pro Trp Leu Leu Ser Lys Ala Val Ser Gly Phe Ala Glu Arg
        35                  40                  45

Leu Glu Met Thr Thr Ile Phe Arg Val Ser Arg Ser
    50                  55                  60


<210> 577
<211> 127
<212> PRT
<213> Homo sapiens

<400> 577
Met Gly Gln Val Trp Arg Val Pro Pro Leu Leu Leu Ser Val Gln Val
 1               5                  10                  15

Phe Leu Thr Met Ala His Ala Phe His Gln Ala Pro Glu Leu Gln Trp
            20                  25                  30

Leu Gly Leu Trp Phe Trp Val Arg Leu Phe Ala Gly Gly Asp Gly Gly
        35                  40                  45

Leu His Leu Asn Ile Ser Ser Val Thr Leu Pro Leu Leu His Gly Lys
```

```
                85                  90                  95

Leu Asp Phe Gly Thr Glu Leu Glu Pro Arg Lys Glu Ile Val Leu Phe
            100                 105                 110

Asp Lys Pro Thr Arg Gly Thr Thr Val Gln Lys Phe Lys Glu Met Val
        115                 120                 125

Tyr Ser Leu Phe Lys Ala Lys Leu Gly Asp Gln Gly Asn Leu Ser Glu
    130                 135                 140

Leu Val Asn Leu Ile Leu Thr Val Ala Asp Gly Asp Lys Asp Gly Gln
145                 150                 155                 160

Val Ser Leu Gly Glu Ala Lys Ser Ala Trp Ala Leu Leu Gln Leu Asn
                165                 170                 175

Glu Phe Leu Leu Met Val Ile Leu Gln Asp Lys Glu His Thr Pro Lys
            180                 185                 190

Leu Met Gly Phe Cys Gly Asp Leu Tyr Val Met Glu Ser Val Glu Tyr
        195                 200                 205

Thr Ser Leu Tyr Gly Ile Ser Leu Pro Trp Val Ile Glu Leu Phe Ile
    210                 215                 220

Pro Ser Gly Phe Arg Arg Ser Met Asp Gln Leu Phe Thr Pro Ser Trp
225                 230                 235                 240

Pro Arg Lys Ala Lys Ile Ala Ile Gly Leu Leu Glu Phe Val Glu Asp
                245                 250                 255

Val Phe His Gly Pro Tyr Gly Asn Phe Leu Met Cys Asp Thr Ser Ala
            260                 265                 270

Lys Asn Leu Gly Tyr Asn Asp Lys Tyr Asp Leu Lys Met Val Asp Met
        275                 280                 285

Arg Lys Ile Val Pro Glu Thr Asn Leu Lys Glu Leu Ile Lys Asp Arg
    290                 295                 300

His Cys Glu Ser Asp Leu Asp Cys Val Tyr Gly Thr Asp Cys Arg Thr
305                 310                 315                 320

Ser Cys Asp Gln Ser Thr Met Lys Cys Thr Ser Glu Val Ile Gln Pro
                325                 330                 335

Asn Leu Ala Lys Ala Cys Gln Leu Leu Lys Asp Tyr Leu Leu Arg Gly
            340                 345                 350

Ala Pro Ser Glu Ile Arg Glu Glu Leu Glu Lys Gln Leu Tyr Ser Cys
        355                 360                 365

Ile Ala Leu Lys Val Thr Ala Asn Gln Met Glu Met Glu His Ser Leu
    370                 375                 380

Ile Leu Asn Asn Leu Lys Thr Leu Leu Trp Lys Lys Ile Ser Tyr Thr
385                 390                 395                 400

Asn Asp Ser
```

```
Phe Gly Lys Cys Leu Ser Thr Lys Pro Asn Asn Gln Met Tyr Leu Gly
 65                  70                  75                  80

Ile Trp Asp Asn Leu Pro Gly Val Val Lys Cys Gln Met Glu Gln Ala
                 85                  90                  95

Leu His Leu Asp Phe Gly Thr Glu Leu Glu Pro Arg Lys Glu Ile Val
            100                 105                 110

Leu Phe Asp Lys Pro Thr Arg Gly Thr Thr Val Gln Lys Phe Lys Glu
        115                 120                 125

Met Val Tyr Ser Leu Phe Lys Ala Lys Leu Gly Asp Gln Gly Asn Leu
    130                 135                 140

Ser Glu Leu Val Asn Leu Ile Leu Xaa Val Ala Asp Gly Asp Lys Asp
145                 150                 155                 160

Gly Gln Val Ser Leu Gly Glu Ala Lys Ser Ala Trp Ala Leu Leu Gln
                165                 170                 175

Leu Xaa Glu Phe Xaa Xaa His Gly
            180


<210> 573
<211> 3
<212> PRT
<213> Homo sapiens

<400> 573
Tyr Thr Val
  1


<210> 574
<211> 403
<212> PRT
<213> Homo sapiens

<400> 574
Met Lys Tyr Leu Phe Phe Ser Trp Leu Val Val Phe Val Gly Ser Trp
  1               5                  10                  15

Ile Ile Tyr Val Gln Tyr Ser Thr Tyr Thr Glu Leu Cys Arg Gly Lys
             20                  25                  30

Asp Cys Lys Lys Ile Ile Cys Asp Lys Tyr Lys Thr Gly Val Ile Asp
         35                  40                  45

Gly Pro Ala Cys Asn Ser Leu Cys Val Thr Glu Thr Leu Tyr Phe Gly
     50                  55                  60

Lys Cys Leu Ser Thr Lys Pro Asn Asn Gln Met Tyr Leu Gly Ile Trp
 65                  70                  75                  80

Asp Asn Leu Pro Gly Val Val Lys Cys Gln Met Glu Gln Ala Leu His
```

<210> 571
<211> 48
<212> PRT
<213> Homo sapiens

<400> 571

```
Met Arg Gly Asp Ala Pro Pro Ile Asn Leu Gly Cys Leu Pro Phe Phe
1               5                   10                  15

Leu Cys Leu Phe Phe Phe Cys His Leu Lys Tyr Tyr Leu Ser Leu Leu
            20                  25                  30

Gly Asn Leu Arg Pro Ile Asp Glu Val Tyr Met Cys Leu Ser Asp Ile
        35                  40                  45
```

<210> 572
<211> 184
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (153)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (178)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (181)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (182)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 572

```
Val Arg Met Lys Tyr Leu Phe Phe Ser Trp Leu Val Val Phe Val Gly
1               5                   10                  15

Ser Trp Ile Ile Tyr Val Gln Tyr Ser Thr Tyr Thr Glu Leu Cys Arg
            20                  25                  30

Gly Lys Asp Cys Lys Lys Ile Ile Cys Asp Lys Tyr Lys Thr Gly Val
        35                  40                  45

Ile Asp Gly Pro Ala Cys Asn Ser Leu Cys Val Thr Glu Thr Leu Tyr
    50                  55                  60
```

```
Met Cys Leu Leu Phe Leu Leu Pro Arg Phe Pro Val Ser Trp Arg Ala
  1               5                  10                  15

Gly Val Asp Gly Ala Ala Pro Ser Ser Gln Asp Leu Trp Arg Ile Arg
             20                  25                  30

Ser Pro Cys Gly Asp Cys Glu Gly Phe Asp Val His Ile Met Asp Asp
         35                  40                  45

Met Ile Lys Val Gly Arg Ala Thr Leu Cys Ile Val Pro Pro Thr Cys
     50                  55                  60

Ser Cys Ile Ala Gly Leu Ser Gln Gly Pro Ser Leu Gly Ser Thr Gly
 65                  70                  75                  80

Ser Ser Val Gly Gly Ser Glu Val Arg Cys Cys His Phe Val Trp Phe
                 85                  90                  95

Asn Met Ser Ile Ala Trp Tyr Gln Pro Cys Ser Trp Leu Arg Ala Val
            100                 105                 110

Thr Leu Cys Gln Asn Leu His Trp Ala Cys Thr Ser Cys His Cys Asn
        115                 120                 125

Cys Pro Cys Gln Cys Pro Gln Leu Leu Phe
    130                 135
```

<210> 569
<211> 48
<212> PRT
<213> Homo sapiens

<400> 569

```
Met Arg Gly Asp Ala Pro Pro Ile Asn Leu Gly Cys Leu Pro Phe Phe
  1               5                  10                  15

Leu Cys Leu Phe Phe Phe Cys His Leu Lys Tyr Tyr Leu Ser Leu Leu
             20                  25                  30

Gly Asn Leu Arg Pro Ile Asp Glu Val Tyr Met Cys Leu Ser Asp Ile
         35                  40                  45
```

<210> 570
<211> 17
<212> PRT
<213> Homo sapiens

<400> 570

```
Phe Leu Ser Leu Leu Phe Phe Phe Leu Ala Phe Ser Phe Phe Thr Glu
  1               5                  10                  15

Ala
```

```
            20                  25                  30

Leu Phe




<210> 567
<211> 193
<212> PRT
<213> Homo sapiens

<400> 567
Met Cys Leu Leu Phe Leu Leu Pro Arg Phe Pro Val Ser Trp Arg Ala
1               5                   10                  15

Gly Val Asp Gly Ala Ala Pro Ser Ser Gln Asp Leu Trp Arg Ile Arg
            20                  25                  30

Ser Pro Cys Gly Asp Cys Glu Gly Phe Asp Val His Ile Met Asp Asp
        35                  40                  45

Met Ile Lys Arg Ala Leu Asp Phe Arg Glu Ser Arg Glu Ala Glu Pro
    50                  55                  60

His Pro Leu Trp Glu Tyr Pro Cys Arg Ser Leu Ser Glu Pro Trp Gln
65                  70                  75                  80

Ile Leu Thr Phe Asp Phe Gln Gln Pro Val Pro Leu Gln Pro Leu Cys
                85                  90                  95

Ala Glu Gly Thr Val Glu Leu Arg Arg Pro Gly Gln Ser His Ala Ala
            100                 105                 110

Val Leu Trp Met Glu Tyr His Leu Thr Pro Glu Cys Thr Leu Ser Thr
        115                 120                 125

Gly Leu Leu Glu Pro Ala Asp Pro Glu Gly Gly Cys Cys Trp Asn Pro
    130                 135                 140

His Cys Lys Gln Ala Val Tyr Phe Phe Ser Pro Ala Pro Asp Pro Arg
145                 150                 155                 160

Ala Leu Leu Gly Gly Pro Arg Thr Val Ser Tyr Ala Val Glu Phe His
                165                 170                 175

Pro Asp Thr Gly Asp Ile Ile Met Glu Phe Arg His Ala Asp Thr Pro
            180                 185                 190

Asp




<210> 568
<211> 138
<212> PRT
<213> Homo sapiens

<400> 568
```

```
<212> PRT
<213> Homo sapiens

<400> 564
Phe Ser Asn Thr Trp Ser Phe Pro Lys Asp Ala Phe Tyr Thr Asp Phe
 1               5                   10                  15

Tyr Leu Lys Ser Ile Val Val Arg Glu Tyr Cys Val Phe Cys Ser Asn
             20                  25                  30

Pro Leu Lys Tyr Ile Glu Thr Cys Leu Ile Cys Lys Tyr Arg Phe Ser
         35                  40                  45

Tyr Phe Ser Ile Cys Asp Trp Lys Asn Ile Asn Leu Thr Ile Trp Gly
     50                  55                  60

Tyr Ser Ile His Thr Ile His Thr Asn Ile Tyr Val Phe Ser Val Leu
 65                  70                  75                  80

Gln Asn Phe Tyr Ile Phe Pro Gly Ile Cys Leu Leu Ala Ser Leu Ile
                 85                  90                  95

Thr Glu Arg Cys Thr Ile Leu Ser Cys Thr Phe Phe Cys Cys Ser Leu
            100                 105                 110

Ile Phe Leu Ser Tyr Pro Tyr Gly Asn Cys Ile Lys Cys Ile Pro Ile
        115                 120                 125




<210> 565
<211> 47
<212> PRT
<213> Homo sapiens

<400> 565
Met Leu Ile Phe Ser Phe Leu Ser Phe Trp Phe Phe Gln Ser Cys Gln
 1               5                   10                  15

Gly Phe Ile Tyr Phe Met Ser Ile Phe Glu Glu Pro Val Ala Asp Phe
             20                  25                  30

Val His Leu Tyr Cys Val Phe Tyr Phe Gln Gly Cys Ser Tyr Leu
         35                  40                  45


<210> 566
<211> 34
<212> PRT
<213> Homo sapiens

<400> 566
Pro Cys Ser Trp Leu Arg Ala Val Thr Leu Cys Gln Asn Leu His Trp
 1               5                   10                  15

Ala Cys Thr Ser Cys His Cys Asn Cys Pro Cys Gln Cys Pro Gln Leu
```

```
<400> 561
Met Leu Ile Thr Ile Ser Leu Glu Leu Leu Leu Arg Leu Val Gly Ala
 1               5                  10                  15

Ala Leu Gln Glu Lys Gln Gln Pro Leu Ser Leu Pro Ser Cys Gly Glu
            20                  25                  30

Gln Gly Gly Asp Glu Arg Tyr Leu Gly Arg Pro Gly Lys Ser Leu Lys
        35                  40                  45

Asn



<210> 562
<211> 49
<212> PRT
<213> Homo sapiens

<400> 562
Met Leu Ile Thr Ile Ser Leu Glu Leu Leu Leu Arg Leu Val Gly Ala
 1               5                  10                  15

Ala Leu Gln Glu Lys Gln Gln Pro Leu Ser Leu Pro Ser Cys Gly Glu
            20                  25                  30

Gln Gly Gly Asp Glu Arg Tyr Leu Gly Arg Pro Gly Lys Ser Leu Lys
        35                  40                  45

Asn



<210> 563
<211> 47
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (25)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 563
Met Leu Ile Phe Ser Phe Leu Ser Phe Trp Phe Phe Gln Ser Cys Gln
 1               5                  10                  15

Gly Phe Ile Tyr Phe Met Ser Ile Xaa Glu Glu Pro Val Ala Asp Phe
            20                  25                  30

Val His Leu Tyr Cys Val Phe Tyr Phe Gln Gly Cys Ser Tyr Leu
        35                  40                  45


<210> 564
<211> 128
```

```
<400> 558
Met Ser His Cys Thr Trp Pro Leu Asp Tyr Ser Phe Leu Phe Met Ser
 1               5                   10                  15

Cys Ala Ser Ile Cys Gly Gln His Gly Ala Ser Val Gly Asn Thr Gly
             20                  25                  30

Arg Lys Gln Val Gln Ile Trp Leu Gly Leu Leu Ala Trp Gln Leu Gly
         35                  40                  45

Lys Pro Pro Leu Leu Trp Leu Leu Pro Arg Leu Phe Met Thr Val Ala
     50                  55                  60

Ala His Gln Leu Gln Leu
 65                  70


<210> 559
<211> 62
<212> PRT
<213> Homo sapiens

<400> 559
Val Tyr Gln Arg Lys Ser Thr Val Val Leu Gly Gly Phe Leu Leu Trp
 1               5                   10                  15

Asp Ile Asp Phe Leu Phe Phe Phe Arg Asn Ile Val Cys Cys Asn Leu
             20                  25                  30

Asn Lys Asn Tyr Asp Ile Leu Arg Tyr Phe Ile Asp Lys Pro Asn Lys
         35                  40                  45

Asn Ile Cys Phe Tyr Phe Lys Val Asn Val Phe Leu Phe Ser
     50                  55                  60


<210> 560
<211> 47
<212> PRT
<213> Homo sapiens

<400> 560
Met Leu Arg Phe Ser Ser Ser Leu Leu Glu Cys Leu Leu Ser Pro Leu
 1               5                   10                  15

Cys Leu Thr Asp Ala Thr Gly His His Leu Asp His Pro Ile Leu Val
             20                  25                  30

Pro Val Gln Val Gln Lys Arg Asn Asn Val Leu Lys Phe Thr Ser
         35                  40                  45


<210> 561
<211> 49
<212> PRT
<213> Homo sapiens
```

```
Asn Ser Ser Arg
     50



<210> 555
<211> 39
<212> PRT
<213> Homo sapiens

<400> 555
Met Gly Gly Asn Val Leu Ile Phe His Phe Arg Cys Leu Trp Lys Cys
  1               5                  10                  15

Trp Gly Arg Val Arg Gly Leu Phe Leu Ser Gly Gly Pro Leu Thr Gln
             20                  25                  30

Ser Ile Phe Asn Ser Leu Phe
         35



<210> 556
<211> 12
<212> PRT
<213> Homo sapiens

<400> 556
Gly Gly Asn Val Leu Ile Phe His Phe Arg Cys Leu
  1               5                  10



<210> 557
<211> 70
<212> PRT
<213> Homo sapiens

<400> 557
Met Ser His Cys Thr Trp Pro Leu Asp Tyr Ser Phe Leu Phe Met Ser
  1               5                  10                  15

Cys Ala Ser Ile Cys Gly Gln His Gly Ala Ser Val Gly Asn Thr Gly
             20                  25                  30

Arg Lys Gln Val Gln Ile Trp Leu Gly Leu Leu Ala Trp Gln Leu Gly
         35                  40                  45

Lys Pro Pro Leu Leu Trp Leu Leu Pro Arg Leu Phe Met Thr Val Ala
     50                  55                  60

Ala His Gln Leu Gln Leu
 65                  70



<210> 558
<211> 70
<212> PRT
<213> Homo sapiens
```

Ala Pro Arg Asp Cys Ala His Pro Glu Leu His Pro Leu Cys Leu Pro
65 70 75 80

Arg Trp Ser Leu Gln Leu Leu Pro Arg
85

<210> 551
<211> 21
<212> PRT
<213> Homo sapiens

<400> 551
Pro Trp Ala Ser Ser His Leu Gly Pro Arg Pro Tyr Val His Gly Leu
1 5 10 15

Ala Pro Ser Gly Pro
20

<210> 552
<211> 6
<212> PRT
<213> Homo sapiens

<400> 552
Pro Trp Pro Pro Leu Val
1 5

<210> 553
<211> 6
<212> PRT
<213> Homo sapiens

<400> 553
Pro Trp Pro Pro Leu Val
1 5

<210> 554
<211> 52
<212> PRT
<213> Homo sapiens

<400> 554
Asp Ile Leu Asn Leu Tyr Cys Thr Phe Tyr Leu Arg Gly Ser Ser Phe
1 5 10 15

Thr Cys Val Phe Ile Cys Val Tyr Leu Ser Tyr Ser Lys Arg Ser Arg
20 25 30

Glu Ser Pro Cys Pro Arg Ser Ser Ile Leu Arg Ser Glu Asp Val Gln
35 40 45

```
<213> Homo sapiens

<400> 548
Met Ala Ala Ala Arg Asn Leu Arg Thr Ala Leu Ile Phe Gly Gly Phe
1               5                   10                  15

Ile Ser Met Val Gly Ala Ala Phe Tyr Pro Ile Tyr Phe Arg Pro Leu
            20                  25                  30

Met Arg Leu Glu Glu Tyr Gln Lys Glu Gln Ala Val Asn Arg Ala Gly
        35                  40                  45

Ile Val Gln Glu Asp Val Gln Pro Pro Gly Leu Lys Val Trp Ser Asp
    50                  55                  60

Pro Phe Gly Arg Lys
65


<210> 549
<211> 79
<212> PRT
<213> Homo sapiens

<400> 549
Ser Gly Trp Gln Val Pro Ser Ser Val Lys His Leu Pro Tyr Asp Asn
1               5                   10                  15

Leu Arg Ser His Cys Val Ala Asp Glu Gly Glu Thr Glu Val Glu Gly
            20                  25                  30

Thr Arg Ala Thr Trp Val Glu His Ser Gly Arg Pro Gly Val Gly Ser
        35                  40                  45

Gly Arg Pro Pro Gly Thr Ser Leu Thr Thr Leu Pro Leu Leu Leu Thr
    50                  55                  60

His Leu Ser Leu Thr Cys Pro Leu Gly Gly Asp Phe Ser Lys Arg
65                  70                  75


<210> 550
<211> 89
<212> PRT
<213> Homo sapiens

<400> 550
Met Pro Val Pro Leu Leu Ala Ser Ala Ala Trp Cys His Leu Cys Ala
1               5                   10                  15

Gly Ala Leu Pro Ala Trp Leu Trp Leu Pro Trp Arg Ala Ala Ala Ala
            20                  25                  30

Gln Trp His Val Cys Ala Ser His Cys Leu Pro Leu His Pro Ala Phe
        35                  40                  45

Ser Ala Leu Gly Pro His Pro Asp Pro Gly Arg Ala Gly Pro Gly Ala
    50                  55                  60
```

```
Met Ile Leu Ile Met Ser Met Asp Ser Val Lys Leu Val Leu Gly Trp
 1               5                   10                  15

Pro Leu Trp Val Leu Cys Phe Trp Gln Ala Ala Trp Cys Phe Lys Lys
            20                  25                  30

Ala Phe Glu Trp Gln Gln Thr Leu Pro Leu Tyr Ser Thr Glu Met Val
        35                  40                  45

Asn Lys Pro
    50



<210> 546
<211> 51
<212> PRT
<213> Homo sapiens

<400> 546
Met Ile Leu Ile Met Ser Met Asp Ser Val Lys Leu Val Leu Gly Trp
 1               5                   10                  15

Pro Leu Trp Val Leu Cys Phe Trp Gln Ala Ala Trp Cys Phe Lys Lys
            20                  25                  30

Ala Phe Glu Trp Gln Gln Thr Leu Pro Leu Tyr Ser Thr Glu Met Val
        35                  40                  45

Asn Lys Pro
    50



<210> 547
<211> 69
<212> PRT
<213> Homo sapiens

<400> 547
Met Ala Ala Ala Arg Asn Leu Arg Thr Ala Leu Ile Phe Gly Gly Phe
 1               5                   10                  15

Ile Ser Met Val Gly Ala Ala Phe Tyr Pro Ile Tyr Phe Arg Pro Leu
            20                  25                  30

Met Arg Leu Glu Glu Tyr Gln Lys Glu Gln Ala Val Asn Arg Ala Gly
        35                  40                  45

Ile Val Gln Glu Asp Val Gln Pro Pro Gly Leu Lys Val Trp Ser Asp
    50                  55                  60

Pro Phe Gly Arg Lys
65



<210> 548
<211> 69
<212> PRT
```

```
<210> 543
<211> 15
<212> PRT
<213> Homo sapiens

<400> 543
Met Pro Pro Arg Ala Ala Trp Ala Trp Leu Leu Cys Gly Ala Ser
 1               5                   10                  15



<210> 544
<211> 116
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (7)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (16)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 544
Ser Gln Leu Leu Arg Arg Xaa Arg Gln Glu Asp Cys Leu Ser Pro Xaa
 1               5                   10                  15

Gly Gly Ser Cys Ser Glu Pro Arg Leu Arg His Cys Thr Pro Ala Trp
             20                  25                  30

Val Thr Glu Arg Asp Ser Val Ser Lys Lys Lys Lys Lys Thr Ser Glu
         35                  40                  45

Val Gly Ala Val Pro Tyr Phe Cys Pro Thr Pro Ile Lys Arg Ile Pro
     50                  55                  60

Lys Thr Thr Cys Gly Asn Leu Ile Ile Leu Ser Asn Leu Leu Phe Gly
 65                  70                  75                  80

Gln Asp Trp His Leu Pro Cys Phe Ser Leu Leu Leu Ala Val Lys His
                 85                  90                  95

Gly Phe Lys Glu Glu Cys Phe Ser Glu Phe Thr Leu Tyr Ile Ser Asp
            100                 105                 110

Leu Glu Val Ile
        115


<210> 545
<211> 51
<212> PRT
<213> Homo sapiens

<400> 545
```

```
<210> 541
<211> 201
<212> PRT
<213> Homo sapiens

<400> 541
Arg Gln Ala Val Ile Val Cys Arg Arg Arg Phe Val Met Gly Pro Val
1               5                   10                  15

Arg Leu Gly Ile Leu Leu Phe Leu Phe Leu Ala Val His Glu Ala Trp
            20                  25                  30

Ala Gly Met Leu Lys Glu Glu Asp Asp Asp Thr Glu Arg Leu Pro Ser
        35                  40                  45

Lys Cys Glu Val Cys Lys Leu Leu Ser Thr Glu Leu Gln Ala Glu Leu
    50                  55                  60

Ser Arg Thr Gly Arg Ser Arg Glu Val Leu Glu Leu Gly Gln Val Leu
65                  70                  75                  80

Asp Thr Gly Lys Arg Lys Arg His Val Pro Tyr Ser Val Ser Glu Thr
                85                  90                  95

Arg Leu Glu Glu Ala Leu Glu Asn Leu Cys Glu Arg Ile Leu Asp Tyr
            100                 105                 110

Ser Val His Ala Glu Arg Lys Gly Ser Leu Arg Tyr Ala Lys Gly Gln
        115                 120                 125

Ser Gln Thr Met Ala Thr Leu Lys Gly Leu Val Gln Lys Gly Val Lys
    130                 135                 140

Val Asp Leu Gly Ile Pro Leu Glu Leu Trp Asp Glu Pro Ser Val Glu
145                 150                 155                 160

Val Thr Tyr Leu Lys Lys Gln Cys Glu Thr Met Leu Glu Glu Glu Glu
                165                 170                 175

Glu Glu Glu Glu Glu Glu Gly Gly Asp Lys Met Thr Lys Thr Gly Ser
            180                 185                 190

His Pro Lys Leu Asp Arg Glu Asp Leu
        195                 200


<210> 542
<211> 15
<212> PRT
<213> Homo sapiens

<400> 542
Met Pro Pro Arg Ala Ala Trp Ala Trp Leu Leu Cys Gly Ala Ser
1               5                   10                  15
```

Ala Gly Met Leu Lys Glu Glu Asp Asp Asp Thr Glu Arg Leu Pro Ser
35 40 45

Lys Cys Glu Val Cys Lys Leu Leu Ser Thr Glu Leu Gln Ala Glu Leu
50 55 60

Ser Arg Thr Gly Arg Ser Arg Glu Val Leu Glu Leu Gly Gln Val Leu
65 70 75 80

Asp Thr Gly Lys Arg Lys Arg His Val Pro Tyr Ser Val Ser Glu Thr
85 90 95

Arg Leu Glu Glu Ala Leu Glu Asn Leu Cys Glu Arg Ile Leu Asp Tyr
100 105 110

Ser Val His Ala Glu Arg Lys Gly Ser Leu Arg Tyr Ala Lys Gly Gln
115 120 125

Ser Gln Thr Met Ala Thr Leu Lys Gly Leu Val Gln Lys Gly Val Lys
130 135 140

Val Asp Leu Gly Ile Pro Leu Glu Leu Trp Asp Glu Pro Ser Val Glu
145 150 155 160

Val Thr Tyr Leu Lys Lys Gln Cys Glu Thr Met Leu Glu Arg Gly Gly
165 170 175

Arg Gly Gly Arg Gly Arg Gly Arg Gln Asp Asp Gln Asp Arg Lys Pro
180 185 190

Pro Gln Thr
195

<210> 540
<211> 68
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (14)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 540
Trp Pro Thr Val Ala Ser Pro Arg Thr Ala Ser Arg Pro Xaa Gly Pro
1 5 10 15

Cys Gln Asn Cys Ala Cys Trp Thr Thr Ser Gly Ala Gly Cys Arg Pro
20 25 30

Gly Gln Thr Ser Met Pro Pro Trp Thr Thr Gly Pro Arg Cys Cys Thr
35 40 45

Ser Gln Pro Pro Thr Gly Ser Ala Arg Arg Leu Pro Cys Cys Trp Asn
50 55 60

Thr Glu Pro Ala
65

Met Val Ala Val Cys Trp Cys Leu Ala Leu Thr Ala Lys Val Ser Ala
1 5 10 15

Ser Cys Ser Tyr Met Lys Leu Arg Pro Trp Pro Ala Asp Pro Trp Gln
20 25 30

Cys Trp Ala Trp Thr Trp Leu Pro Gln Pro Cys Cys Pro Ala Thr Thr
35 40 45

Gln Thr Leu Ala Trp Cys Ser
50 55

<210> 537
<211> 40
<212> PRT
<213> Homo sapiens

<400> 537
Met Lys Cys Ser Lys Val Leu Thr Gln Leu Ile Leu Phe Thr Pro Leu
1 5 10 15

Gly Val Cys Lys Met Ser Leu Phe Tyr Lys His Asn His Asn Ser Asn
20 25 30

Lys Pro Gln Val Val Ala Ser Val
35 40

<210> 538
<211> 40
<212> PRT
<213> Homo sapiens

<400> 538
Met Lys Cys Ser Lys Val Leu Thr Gln Leu Ile Leu Phe Thr Pro Leu
1 5 10 15

Gly Val Cys Lys Met Ser Leu Phe Tyr Lys His Asn His Asn Ser Asn
20 25 30

Lys Pro Gln Val Val Ala Ser Val
35 40

<210> 539
<211> 195
<212> PRT
<213> Homo sapiens

<400> 539
Arg Gln Ala Val Ile Val Cys Arg Arg Arg Phe Val Met Gly Pro Val
1 5 10 15

Arg Leu Gly Ile Leu Leu Phe Leu Phe Leu Ala Val His Glu Ala Trp
20 25 30

```
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (20)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (60)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 534
Gly Arg Lys Arg Asp Gly Gly Trp Arg Lys Gly Gln Lys Ala Gln Val
 1               5                  10                  15

Glu Val Pro Xaa Leu Leu Ala Arg Arg Ile Leu Trp Pro Leu Gly Gly
            20                  25                  30

Trp Ser Gly Cys Val Asn Gln Ser Leu Ser Gln Trp Arg Ala Gly Leu
        35                  40                  45

Val Val Cys Val Phe Ile Thr Gly Pro His Pro Xaa His Thr His Thr
    50                  55                  60

Arg Thr His Cys Gly Val
65                  70



<210> 535
<211> 70
<212> PRT
<213> Homo sapiens

<400> 535
Ala Leu Ser Ile Asn Lys Lys Gln Pro Asn Ala Trp Gly Glu Thr Val
 1               5                  10                  15

Thr Lys Gly Pro Ala Phe Arg Asn Trp Asp Val Lys Gly Val Glu Asn
            20                  25                  30

Gly Trp Gly Val Lys Gly Glu His Val Lys Met Gln Glu Ser Ser Phe
        35                  40                  45

Gly Asp Ile Ala Pro Gly Gly Met Trp Val Ser Met Asn Tyr Met Lys
    50                  55                  60

Gly Cys Pro Ser Cys Ser
65                  70



<210> 536
<211> 55
<212> PRT
<213> Homo sapiens

<400> 536
```

```
<210> 532
<211> 96
<212> PRT
<213> Homo sapiens

<400> 532
Met His His His Ala His Leu Ser Cys Tyr Asp Phe Leu Met Leu Leu
 1               5                   10                  15

Phe Leu Leu Leu His Pro Leu Leu Pro Pro Pro Pro Thr Ala Ser Leu
             20                  25                  30

Pro Pro Ser Pro Leu Ile Cys Leu Phe Leu His Thr Val Pro Trp Asn
         35                  40                  45

Leu Ser Leu Ala Ser Ser His Ser Thr His Ser Leu Arg Ala Leu Pro
     50                  55                  60

Phe Thr Ser Ala Ile Val Tyr Thr Phe Thr Leu Asp His Ser Ser Glu
 65                  70                  75                  80

Ile Ser Gln Leu Leu His Pro Asp Gly Cys Ser Ala Pro Pro Pro Gly
                 85                  90                  95




<210> 533
<211> 111
<212> PRT
<213> Homo sapiens

<400> 533
Met His His His Ala His Leu Ser Cys Tyr Asp Phe Leu Met Leu Leu
 1               5                   10                  15

Phe Leu Leu Leu His Pro Leu Leu Pro Pro Pro Pro Thr Ala Ser Leu
             20                  25                  30

Pro Pro Ser Pro Leu Ile Cys Leu Phe Leu His Thr Val Pro Trp Asn
         35                  40                  45

Leu Ser Leu Ala Ser Ser His Ser Thr His Ser Leu Arg Ala Leu Pro
     50                  55                  60

Phe Thr Ser Ala Ile Val Tyr Thr Phe Thr Leu Asp His Ser Ser Glu
 65                  70                  75                  80

Ile Ser Gln Leu Leu His Pro Asp Gly Cys Ser Ala Pro Pro Pro Gly
                 85                  90                  95

Cys Pro Thr Gly Thr Leu Asn Pro Thr Ser Pro Lys Leu Asn Ser
            100                 105                 110


<210> 534
<211> 70
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```
<210> 528
<211> 4
<212> PRT
<213> Homo sapiens

<400> 528
Met Phe Lys Met
 1


<210> 529
<211> 10
<212> PRT
<213> Homo sapiens

<400> 529
Ile Tyr Gln His Phe Ser Leu Trp Leu Gly
 1               5                  10


<210> 530
<211> 48
<212> PRT
<213> Homo sapiens

<400> 530
Met Met Leu Tyr Gln Asn Met Leu Leu Tyr Phe Arg Ile Ile Gly Val
 1               5                  10                  15

Leu Ala Leu Asn Phe Ser Ile Ser Pro Ile Phe Phe His Gly Ser Leu
            20                  25                  30

Gly Lys Leu Tyr Val Tyr Ser Ala Ala Lys Tyr Ser Leu Glu Leu Lys
        35                  40                  45


<210> 531
<211> 22
<212> PRT
<213> Homo sapiens

<400> 531
His Ser Asp Leu Gly Leu Ser Cys Pro Glu Leu Leu Leu Pro Cys Ile
 1               5                  10                  15

Ile Leu Ile Thr Phe Ser
            20
```

```
Glu Gly Glu Asp Tyr Thr Gln Ser Leu Ala Val Thr Ala Ser Val Gln
         35                  40                  45

Lys Ser Cys Val Trp Ala Gln Asn Tyr Ser Leu His Ser Cys Asn Thr
     50                  55                  60

Tyr Ala Ser Arg Xaa Gln Arg Ala Leu Ser Pro Gly Leu His Asn Arg
 65                  70                  75                  80

Arg Glu Lys Gln Leu Cys Gly Glu Leu Val Thr
                 85                  90


<210> 526
<211> 96
<212> PRT
<213> Homo sapiens

<400> 526
Met Arg Ala Cys Val Cys Val Tyr Ala Cys Ala His Met Cys Val Cys
  1               5                  10                  15

Leu Ala Phe Ser Tyr Leu Ile Gly Cys Ile Lys Cys Arg Pro Lys Asp
             20                  25                  30

Glu Gly Glu Asp Leu His Pro Lys Pro Gly Cys Asp Ser Phe Cys Pro
         35                  40                  45

Glu Lys Leu Cys Leu Gly Ser Glu Leu Leu Thr Thr Phe Met Gln Tyr
     50                  55                  60

Ile Cys Lys Gln Gly Ala Glu Ser Phe Ile Thr Gly Ala Thr Gln Gln
 65                  70                  75                  80

Lys Gly Lys Thr Val Met Trp Arg Ala Gly Asp Leu Thr Arg Glu Ala
                 85                  90                  95



<210> 527
<211> 48
<212> PRT
<213> Homo sapiens

<400> 527
Met Met Leu Tyr Gln Asn Met Leu Leu Tyr Phe Arg Ile Ile Gly Val
  1               5                  10                  15

Leu Ala Leu Asn Phe Ser Ile Ser Pro Ile Phe Phe His Gly Ser Leu
             20                  25                  30

Gly Lys Leu Tyr Val Tyr Ser Ala Ala Lys Tyr Ser Leu Glu Leu Lys
         35                  40                  45
```

<400> 523
Met Ala Ala Ala Trp Phe Ile Leu Leu Phe Lys His Cys Val His Ser
1   5   10   15

Ser Ser Ile Val Asp Leu Ser Phe Lys Glu Ser Ser Pro Trp Asp Ile
            20   25   30

Lys

<210> 524
<211> 85
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (32)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 524
Leu Trp Arg Tyr Leu Gly Phe Cys Ile Leu Cys His Ile Trp Gln Lys
1   5   10   15

Thr Phe Tyr Leu Cys Cys His Glu Lys Gly Cys Thr Met Thr Gln Xaa
            20   25   30

Pro Pro Gln Ala Ser Gly Pro Ala Glu Ala Lys Ser Glu His Arg Glu
        35   40   45

Lys Arg Arg Lys Arg Glu Asp Arg Trp Gly Lys Gln Glu Arg Arg Asp
    50   55   60

Arg Asp Val His Ile Leu Gly Cys Gln Val Trp His Ser Cys Ser Ala
65   70   75   80

Arg Val Ala Leu Ser
                85

<210> 525
<211> 91
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (69)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 525
Met Arg Ala Cys Val Cys Val Tyr Ala Cys Ala His Met Cys Val Cys
1   5   10   15

Leu Ala Phe Ser Tyr Leu Ile Gly Cys Ile Lys Cys Arg Pro Lys Asp
            20   25   30

```
  1               5                   10                  15

Ser Ser Ile Val Asp Leu Ser Phe Lys Glu Ser Ser Pro Trp Asp Ile
            20                  25                  30

Lys



<210> 520
<211> 12
<212> PRT
<213> Homo sapiens

<400> 520
Ala Trp Tyr Val Ile Ile Thr Leu Val Phe Asp Gly
  1               5                   10



<210> 521
<211> 15
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (10)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (12)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 521
Ala Trp Tyr Val Val Met Ala Leu Thr Xaa Met Xaa Trp Asp Phe
  1               5                   10                  15



<210> 522
<211> 17
<212> PRT
<213> Homo sapiens

<400> 522
Leu Leu Leu Asn Phe Cys Ala Val Thr Ala Phe Phe Thr Pro Ile Leu
  1               5                   10                  15

Gln



<210> 523
<211> 33
<212> PRT
<213> Homo sapiens
```

20 25 30

Pro Val Arg Cys Arg Thr Phe Ser Ser Ile Leu Gly Leu Phe Leu Leu
35 40 45

Asp Ala Ser Ser Thr Pro Phe Leu Ser Tyr Asp Arg Leu Lys Cys Pro
50 55 60

Pro Gly Lys Arg Trp Trp Gln Asn Tyr Pro Trp
65 70 75

<210> 517
<211> 60
<212> PRT
<213> Homo sapiens

<400> 517
Met Asn Glu Ser Phe Tyr Cys Ser Ala Phe Leu Pro Ala Phe Ile Val
1 5 10 15

Cys Trp Ile Leu Ala Ile Leu Ile Val Leu Thr Cys Gly Phe Arg Met
20 25 30

Thr Asp Tyr Ile Glu His Leu His Glu Ile Leu Cys His Leu Tyr Ile
35 40 45

Phe Phe Gly Lys Ala Ser Ile Ser Gly Leu Ser Thr
50 55 60

<210> 518
<211> 60
<212> PRT
<213> Homo sapiens

<400> 518
Met Asn Glu Ser Phe Tyr Cys Ser Ala Phe Leu Pro Ala Phe Ile Val
1 5 10 15

Cys Trp Ile Leu Ala Ile Leu Ile Val Leu Thr Cys Gly Phe Arg Met
20 25 30

Thr Asp Tyr Ile Glu His Leu His Glu Ile Leu Cys His Leu Tyr Ile
35 40 45

Phe Phe Gly Lys Ala Ser Ile Ser Gly Leu Ser Thr
50 55 60

<210> 519
<211> 33
<212> PRT
<213> Homo sapiens

<400> 519
Met Ala Ala Ala Trp Phe Ile Leu Leu Phe Lys His Cys Val His Ser

```
<210> 514
<211> 35
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (15)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (20)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 514
Leu Thr Ser Phe Gly Leu Arg Ala Ile Leu Ile Phe Gln Met Xaa Ser
  1               5                  10                  15

Asp Val Asn Xaa Ile Gly Lys His Gln Arg Asn Gly Cys Lys Val Ser
             20                  25                  30

Gly Thr Glu
         35


<210> 515
<211> 50
<212> PRT
<213> Homo sapiens

<400> 515
Met Gly Gln Ala Ser Ala Leu Ala Ser Leu Leu Leu Arg Ala Leu Ala
  1               5                  10                  15

Leu Val Leu Gly Ala Arg Ile Gly Lys Gly Gly Gln Arg Gly Met Ile
             20                  25                  30

Ile Ile Ser Ile Ala Ala Leu Pro Ser Thr Gly Cys Gln Glu Leu Tyr
         35                  40                  45

Ile His
     50


<210> 516
<211> 75
<212> PRT
<213> Homo sapiens

<400> 516
Ser Pro Ile Ile Phe Pro Leu Asn His Tyr Thr Arg Ile Ser His Leu
  1               5                  10                  15

Cys Pro Pro Asp Ile Leu Gly Trp Ile Ile Leu Gly Leu Gly Gly Cys
```

65 70 75 80

Cys Val His Met Tyr Ala Leu Val Cys Val His Thr Trp Gly Val Cys
85 90 95

Ala Tyr Val Glu Val
100

<210> 512
<211> 90
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (5)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 512
Met Tyr Arg Gly Xaa Arg Val Lys His Pro Phe Val Phe Arg Lys Leu
1 5 10 15

Gln Val Thr Gln Asp Asp Trp Ile Val Arg Tyr Arg Gly Leu Lys Gly
20 25 30

Asn Ala Glu Val Val His Arg Glu Gln Val Asn Leu Pro Arg Thr Met
35 40 45

Gly Leu Arg His Ala Leu Leu Thr Arg Arg Ala Thr Arg Ser Met Gly
50 55 60

Ala Ile Cys Val Ala Gly Cys Gly Ile Pro Ala Gln Val Ser Leu Ser
65 70 75 80

Lys Arg Gly Ile Leu Leu Val Pro Lys Thr
85 90

<210> 513
<211> 45
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (39)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 513
Leu Gly Ser Ala Arg His Arg Pro His Ala Leu Val Leu Gly Met Ser
1 5 10 15

Ser Pro Phe Leu Lys Lys Thr Cys Ser Ala Val Thr Thr Thr Lys Lys
20 25 30

His Gly Glu Asp Trp Ala Xaa Asp Met Met Phe Ser Ser
35 40 45

<210> 509
<211> 51
<212> PRT
<213> Homo sapiens

<400> 509
Met Arg Cys Gly Glu Ile Ile Leu Ala Ser Val Leu Gly Leu Leu Leu
1 5 10 15

Thr Leu Pro Pro Thr Ser Cys His Leu Asn Lys Ser Phe Pro Phe Leu
20 25 30

Cys Leu Pro Trp Ser Gln Ala Leu Ser Leu Asn Pro His Ser Gly Asn
35 40 45

Glu Ala Gly
50

<210> 510
<211> 51
<212> PRT
<213> Homo sapiens

<400> 510
Met Arg Cys Gly Glu Ile Ile Leu Ala Ser Val Leu Gly Leu Leu Leu
1 5 10 15

Thr Leu Pro Pro Thr Ser Cys His Leu Asn Lys Ser Phe Pro Phe Leu
20 25 30

Cys Leu Pro Trp Ser Gln Ala Leu Ser Leu Asn Pro His Ser Gly Asn
35 40 45

Glu Ala Gly
50

<210> 511
<211> 101
<212> PRT
<213> Homo sapiens

<400> 511
Leu Arg Asp Pro Glu Asn Cys Val Glu Cys Gly Asp Gly Glu Cys Ala
1 5 10 15

Cys Gly Cys Thr His Ile Gly Tyr Leu Cys Val Cys Thr Val Tyr Met
20 25 30

Gln Gly Cys Val Tyr Val Cys Met Cys Ile Arg Val Trp Val Trp Val
35 40 45

Trp Gly Val Phe Arg Glu Cys Ala Tyr Thr His Gly Cys Leu Gly Met
50 55 60

Cys Thr Cys Leu Cys Val Arg Gly Val Cys Val Cys Val Cys Met Val

```
145                 150


<210> 507
<211> 31
<212> PRT
<213> Homo sapiens

<400> 507
Leu Phe Leu Pro Phe Ser Met Val Leu Phe Cys Asp Pro Leu Asn Ser
 1               5                  10                  15

Lys Gly Ser Leu Ile Cys Gly Cys Phe Arg Ala Val Leu Pro Arg
            20                  25                  30



<210> 508
<211> 151
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (130)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 508
Met Val Val Ala Ala Val Tyr Ile Leu Tyr Leu Leu Phe Leu Ile Val
 1               5                  10                  15

Arg Ala Cys Ser Glu Leu Arg His Met Pro Tyr Val Asp Leu Arg Leu
            20                  25                  30

Lys Phe Leu Thr Ala Leu Thr Phe Val Val Leu Val Ile Ser Ile Ala
        35                  40                  45

Ile Leu Tyr Leu Arg Phe Gly Ala Gln Val Leu Gln Asp Asn Phe Val
    50                  55                  60

Ala Glu Leu Ser Thr His Tyr Gln Asn Ser Ala Glu Phe Leu Ser Phe
65                  70                  75                  80

Tyr Gly Leu Leu Asn Phe Tyr Leu Tyr Thr Leu Ala Phe Val Tyr Ser
                85                  90                  95

Pro Ser Lys Asn Ala Leu Tyr Glu Ser Gln Leu Lys Asp Asn Pro Ala
            100                 105                 110

Phe Ser Met Leu Asn Asp Ser Asp Asp Asp Val Ile Tyr Gly Ser Asp
        115                 120                 125

Tyr Xaa Glu Met Pro Leu Gln Asn Gly Gln Ala Ile Arg Ala Lys Tyr
    130                 135                 140

Lys Glu Glu Ser Asp Ser Asp
145                 150
```

```
<210> 505
<211> 65
<212> PRT
<213> Homo sapiens

<400> 505
Ile Ile Tyr Leu Leu Phe Val Thr Lys Trp Glu Ile Arg Lys Lys Val
1               5                   10                  15

Arg Lys Tyr Leu Arg Gly Lys Ser Phe Leu Leu Ser His Val Phe Ser
            20                  25                  30

Thr Cys Leu Pro Trp Tyr Ile Ile Asn Thr Asp Ile Leu His Thr Pro
        35                  40                  45

Cys Lys Ile Leu Leu Lys Leu Ser Ser Thr Trp His Val Glu Tyr Val
    50                  55                  60

Pro
65


<210> 506
<211> 151
<212> PRT
<213> Homo sapiens

<400> 506
Met Val Val Ala Ala Val Tyr Ile Leu Tyr Leu Leu Phe Leu Ile Val
1               5                   10                  15

Arg Ala Cys Ser Glu Leu Arg His Met Pro Tyr Val Asp Leu Arg Leu
            20                  25                  30

Lys Phe Leu Thr Ala Leu Thr Phe Val Val Leu Val Ile Ser Ile Ala
        35                  40                  45

Ile Leu Tyr Leu Arg Phe Gly Ala Gln Val Leu Gln Asp Asn Phe Val
    50                  55                  60

Ala Glu Leu Ser Thr His Tyr Gln Asn Ser Ala Glu Phe Leu Ser Phe
65                  70                  75                  80

Tyr Gly Leu Leu Asn Phe Tyr Leu Tyr Thr Leu Ala Phe Val Tyr Ser
                85                  90                  95

Pro Ser Lys Asn Ala Leu Tyr Glu Ser Gln Leu Lys Asp Asn Pro Ala
            100                 105                 110

Phe Ser Met Leu Asn Asp Ser Asp Asp Asp Val Ile Tyr Gly Ser Asp
        115                 120                 125

Tyr Glu Glu Met Pro Leu Gln Asn Gly Gln Ala Ile Arg Ala Lys Tyr
    130                 135                 140

Lys Glu Glu Ser Asp Ser Asp
```

<400> 501
Thr Thr Glu Ile Cys Gly Thr Leu Ile Leu Arg Glu Met Ile
1 5 10

<210> 502
<211> 67
<212> PRT
<213> Homo sapiens

<400> 502
Met Ser Leu Phe Leu Thr Leu Ala Leu Cys Ser Val Leu Leu Val His
1 5 10 15

Leu Asn Val Leu Ala Arg Asn Cys Phe Tyr Asp Ser Gly Phe Val Val
20 25 30

His Pro Trp Ile Trp Leu Gly His Ser Leu Pro Tyr Phe Tyr Phe Ser
35 40 45

Pro Leu Ser Gln Arg Leu Phe Ser Tyr Leu Trp Thr Phe Ile Phe Pro
50 55 60

Cys Arg Leu
65

<210> 503
<211> 67
<212> PRT
<213> Homo sapiens

<400> 503
Met Ser Leu Phe Leu Thr Leu Ala Leu Cys Ser Val Leu Leu Val His
1 5 10 15

Leu Asn Val Leu Ala Arg Asn Cys Phe Tyr Asp Ser Gly Phe Val Val
20 25 30

His Pro Trp Ile Trp Leu Gly His Ser Leu Pro Tyr Phe Tyr Phe Ser
35 40 45

Pro Leu Ser Gln Arg Leu Phe Ser Tyr Leu Trp Thr Phe Ile Phe Pro
50 55 60

Cys Arg Leu
65

<210> 504
<211> 5
<212> PRT
<213> Homo sapiens

<400> 504
Leu Tyr Leu Phe Met
1 5

```
<222> (106)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (111)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 499
Gly Arg Cys Leu Asp Cys Phe Asn Pro Phe Leu Leu Ser Cys Pro Arg
  1               5                  10                  15

Ile Gly Leu Val Glu Gln Gly Gly Val Lys Ile Glu Pro Leu Pro Lys
             20                  25                  30

Glu Val Lys Val Tyr Leu Leu Thr Thr Ser Ser Ala Pro Tyr Cys Met
         35                  40                  45

His His Ser Leu Val Glu Phe His Leu Lys Glu Leu Arg Asn Lys Asp
     50                  55                  60

Thr Asn Ile Glu Val Thr Phe Leu Ser Ser Asn Ile Thr Ser Ser Ser
 65                  70                  75                  80

Lys Xaa Thr Ile Pro Lys Gln Xaa Arg Tyr Gly Glu Arg Asn His Xaa
                 85                  90                  95

Pro Met Pro Thr Pro Gln Cys Gln Ile Xaa Gln Val Lys Phe Xaa Phe
            100                 105                 110

Gln Ser Ser Asn Arg Val Trp Lys Lys Asp Arg Thr Thr Ile Ile Gly
        115                 120                 125

Lys Phe Cys Thr Ala Leu Leu Pro Val Asn Asp Arg Glu Lys Met Val
    130                 135                 140

Cys Leu Pro Glu Pro Val Asn Leu Gln Ala Ser Val Thr Val Ser Cys
145                 150                 155                 160

Asp Leu Lys Ile Ala Cys Val
                165


<210> 500
<211> 1
<212> PRT
<213> Homo sapiens

<400> 500
Met
  1


<210> 501
<211> 14
<212> PRT
<213> Homo sapiens
```

```
 65                    70



<210> 497
<211> 14
<212> PRT
<213> Homo sapiens

<400> 497
Leu Phe Ile Leu Val Leu His Asn Glu Asp Asn Leu Tyr Gly
  1               5                  10



<210> 498
<211> 71
<212> PRT
<213> Homo sapiens

<400> 498
Met Phe Ile Phe Ile Leu Met Ile His Leu Ile Tyr Met Trp Ile Gln
  1               5                  10                  15

Gly Thr Lys Phe Met Tyr Lys Ser Ser His Leu Met Asn Val Asp Thr
             20                  25                  30

Phe Leu Glu Asn Ile Tyr Gln Cys Glu Asn Phe Phe Asn Thr Leu Thr
         35                  40                  45

Thr Lys Ile Lys Tyr Ser Leu Ile Ser Leu Phe Asn Lys His Gln Asn
     50                  55                  60

Asn Val Ser Val Phe Ile Leu
 65                  70



<210> 499
<211> 167
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (82)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (88)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (96)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
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<211> 13
<212> PRT
<213> Homo sapiens

<400> 493
Pro Phe His Phe Ser Thr Pro Ser Ile Thr Gly Leu Phe
1 5 10

<210> 494
<211> 2
<212> PRT
<213> Homo sapiens

<400> 494
Phe Leu
1

<210> 495
<211> 50
<212> PRT
<213> Homo sapiens

<400> 495
Met Gln Pro Pro Phe Val Leu Thr Thr Thr Thr Met Ile Ser Leu Phe
1 5 10 15

Leu Ala Leu Ile Ser Thr Lys Lys Val His Leu Thr Ile Pro Gln Pro
20 25 30

Phe Thr Ser His Ser Arg Leu Ser Phe Asp Val Phe Lys Arg Lys Ala
35 40 45

Arg Ala
50

<210> 496
<211> 71
<212> PRT
<213> Homo sapiens

<400> 496
Met Phe Ile Phe Ile Leu Met Ile His Leu Ile Tyr Met Trp Ile Gln
1 5 10 15

Gly Thr Lys Phe Met Tyr Lys Ser Ser His Leu Met Asn Val Asp Thr
20 25 30

Phe Leu Glu Asn Ile Tyr Gln Cys Glu Asn Phe Phe Asn Thr Leu Thr
35 40 45

Thr Lys Ile Lys Tyr Ser Leu Ile Ser Leu Phe Asn Lys His Gln Asn
50 55 60

Asn Val Ser Val Phe Ile Leu

```
Arg Ala
    50


<210> 492
<211> 228
<212> PRT
<213> Homo sapiens

<400> 492
Thr Gln Asp His Gln Lys Leu Cys Tyr Ser Ala Leu Ile Leu Ala Met
1               5                   10                  15

Val Phe Ser Met Gly Glu Ala Val Pro Tyr Ala His Tyr Glu His Leu
                20                  25                  30

Gly Thr Pro Phe Ala Gln Phe Leu Leu Asn Ile Val Glu Asp Gly Leu
        35                  40                  45

Pro Leu Asp Thr Thr Glu Gln Leu Pro Asp Leu Cys Val Asn Leu Leu
    50                  55                  60

Leu Ala Leu Asn Leu His Leu Pro Ala Ala Asp Gln Asn Val Ile Met
65                  70                  75                  80

Ala Ala Leu Ser Lys His Ala Asn Val Lys Ile Phe Ser Glu Lys Leu
                85                  90                  95

Leu Leu Leu Leu Asn Arg Gly Asp Asp Pro Val Arg Ile Phe Lys His
            100                 105                 110

Glu Pro Gln Pro Pro His Ser Val Leu Lys Phe Leu Gln Asp Val Phe
        115                 120                 125

Gly Ser Pro Ala Thr Ala Ala Ile Phe Tyr His Thr Asp Met Met Ala
    130                 135                 140

Leu Ile Asp Ile Thr Val Arg His Ile Ala Asp Leu Ser Pro Gly Asp
145                 150                 155                 160

Lys Leu Arg Met Glu Tyr Leu Ser Leu Met His Ala Ile Val Arg Thr
                165                 170                 175

Thr Pro Tyr Leu Gln His Arg His Arg Leu Pro Asp Leu Gln Ala Ile
            180                 185                 190

Leu Arg Arg Ile Leu Asn Glu Glu Glu Thr Ser Pro Gln Cys Gln Met
        195                 200                 205

Asp Arg Met Ile Val Arg Glu Met Cys Lys Glu Phe Leu Val Leu Gly
    210                 215                 220

Glu Ala Pro Ser
225


<210> 493
```

```
Xaa Gln Glu Pro Thr Arg Arg Ser Ala Arg Leu Ser Ala Lys Pro Ala
         35                  40                  45

Pro Pro Lys Pro Glu Pro Lys Pro Arg Lys Thr Ser Ala Lys Lys Glu
     50                  55                  60

Pro Gly Ala Lys Ile Ser Arg Gly Ala Lys Gly Lys Lys Glu Glu Lys
 65                  70                  75                  80

Gln Glu Ala Gly Lys Glu Gly Thr Ala Pro Ser Glu Asn Gly Glu Thr
                 85                  90                  95

Lys Ala Glu Glu Ile His Ile Ser Arg Ser Thr Val Asn Val Ser Thr
            100                 105                 110

Ser Arg Gly Thr Pro Pro Ser Thr Leu Ser Val Lys Gly Gln Ile Glu
        115                 120                 125

Thr Val Arg Val Lys Gly Thr Glu Asn
    130                 135


<210> 490
<211> 46
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (38)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 490
Asn Lys Pro Asp Thr Gly Arg Lys Ile Leu His Asp Leu Ile Cys Gly
  1               5                  10                  15

Ile Leu Lys Lys Lys Lys Lys Lys Ser Gln Ile Tyr Arg Val Asn Lys
             20                  25                  30

Arg Val Gly Tyr Gln Xaa Gln Val Gly Gly Glu Trp Glu Met
         35                  40                  45


<210> 491
<211> 50
<212> PRT
<213> Homo sapiens

<400> 491
Met Gln Pro Pro Phe Val Leu Thr Thr Thr Thr Met Ile Ser Leu Phe
  1               5                  10                  15

Leu Ala Leu Ile Ser Thr Lys Lys Val His Leu Thr Ile Pro Gln Pro
             20                  25                  30

Phe Thr Ser His Ser Arg Leu Ser Phe Asp Val Phe Lys Arg Lys Ala
         35                  40                  45
```

<210> 487
<211> 42
<212> PRT
<213> Homo sapiens

<400> 487

```
Met Gly Leu Lys Asn Ser Ser Leu Ile Thr Cys Phe Leu Leu Ala Phe
 1               5                   10                  15

Val Val Phe Val Leu Phe Cys Leu Phe Cys Phe Val Phe Leu Cys Tyr
             20                  25                  30

Phe Ile Gly Lys Val Ser Gly Met Cys Ser
         35                  40
```

<210> 488
<211> 27
<212> PRT
<213> Homo sapiens

<400> 488

```
Met Arg Arg Met Ala Ser Ala Leu Leu Leu Asp Gln Leu Thr Lys Ala
 1               5                   10                  15

Leu Leu Ser Gly His Gln Asn Trp Lys Ala Phe
             20                  25
```

<210> 489
<211> 137
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (1)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (7)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (33)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 489

```
Xaa Arg Cys Phe Thr Phe Xaa Phe Thr Asp Ile Val Ile Met Pro Lys
 1               5                   10                  15

Arg Lys Phe Pro Glu Asn Thr Glu Gly Lys Asp Gly Ser Lys Val Thr
             20                  25                  30
```

```
<220>
<221> SITE
<222> (131)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 484
Phe Cys Leu Leu His Val Pro Ala Ser Cys Tyr Cys Ser Phe Ser Asn
  1               5                  10                  15

Gly Ile Thr Ser Pro Cys His Ala Leu Gly Ser Pro Ser Leu Ser Ile
             20                  25                  30

Ser Val Leu Leu Ser Trp Leu Asn Pro Ser Thr Ile Leu Asn Thr Gly
         35                  40                  45

Ser Ser Cys Pro Ile Pro Arg Leu Thr Leu Ser Asp Leu Pro Ile Ser
     50                  55                  60

Leu Ala Phe His Ala Pro Leu Pro Pro Pro Pro Gly Phe Asn Trp Val
 65                  70                  75                  80

Arg Ala Val Phe Leu Pro Leu Cys Ser Ala Ser Ala Leu Arg Thr Pro
                 85                  90                  95

Arg Gly Leu Gly Gly Lys Val Leu Thr Ile Phe Thr Leu Cys Leu Pro
            100                 105                 110

Leu His His Leu Phe Ile Thr Ser Gln Pro Leu Leu Xaa Gln Val Phe
        115                 120                 125

Thr His Xaa Leu Phe Leu Gln Val Phe Asp Trp Arg Glu
    130                 135                 140


<210> 485
<211> 8
<212> PRT
<213> Homo sapiens

<400> 485
Ser His Ile Val Thr Cys Leu Gly
  1               5


<210> 486
<211> 42
<212> PRT
<213> Homo sapiens

<400> 486
Met Gly Leu Lys Asn Ser Ser Leu Ile Thr Cys Phe Leu Leu Ala Phe
  1               5                  10                  15

Val Val Phe Val Leu Phe Cys Leu Phe Cys Phe Val Phe Leu Cys Tyr
             20                  25                  30

Phe Ile Gly Lys Val Ser Gly Met Cys Ser
         35                  40
```

Asn His Asn Thr Asp Thr Pro Arg Ser Leu Ser Val Ser Pro Ser Ser
595 600 605

Tyr Pro Glu Leu His Thr Glu Val Pro Leu Ser Val Leu Ile Leu Gly
610 615 620

Leu Leu Val Val Phe Ile Leu Ser Val Cys Phe Gly Ala Gly Leu Phe
625 630 635 640

Val Phe Val Leu Lys Arg Arg Lys Gly Val Pro Ser Val Pro Arg Asn
645 650 655

Thr Asn Asn Leu Asp Val Ser Ser Phe Gln Leu Gln Tyr Gly Ser Tyr
660 665 670

Asn Thr Glu Thr His Asp Lys Thr Asp Gly His Val Tyr Asn Tyr Ile
675 680 685

Pro Pro Pro Val Gly Gln Met Cys Gln Asn Pro Ile Tyr Met Gln Lys
690 695 700

Glu Gly Asp Pro Val Ala Tyr Tyr Arg Asn Leu Gln Glu Phe Ser Tyr
705 710 715 720

Ser Asn Leu Glu Glu Lys Lys Glu Glu Pro Ala Thr Pro Ala Tyr Thr
725 730 735

Ile Ser Ala Thr Glu Leu Leu Glu Lys Gln Ala Thr Pro Arg Glu Pro
740 745 750

Glu Leu Leu Tyr Gln Asn Ile Ala Glu Arg Val Lys Glu Leu Pro Ser
755 760 765

Ala Gly Leu Val His Tyr Asn Phe Cys Thr Leu Pro Lys Arg Gln Phe
770 775 780

Ala Pro Ser Tyr Glu Ser Arg Arg Gln Asn Gln Asp Arg Ile Asn Lys
785 790 795 800

Thr Val Leu Tyr Gly Thr Pro Arg Lys Cys Phe Val Gly Gln Ser Lys
805 810 815

Pro Asn His Pro Leu Leu Gln Ala Lys Pro Gln Ser Glu Pro Asp Tyr
820 825 830

Leu Glu Val Leu Glu Lys Gln Thr Ala Ile Ser Gln Leu
835 840 845

<210> 484
<211> 141
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (125)
<223> Xaa equals any of the naturally occurring L-amino acids

```
Gln Arg Gly Ser His Ala Asp Thr His Val Gln Arg Leu Ser Pro Thr
        275                 280                 285

Met Asn Pro Ala Leu Asn Pro Thr Arg Ala Pro Lys Ala Ser Arg Pro
    290                 295                 300

Pro Lys Met Arg Asn Arg Pro Thr Pro Arg Val Thr Val Ser Lys Asp
305                 310                 315                 320

Arg Gln Ser Phe Gly Pro Ile Met Val Tyr Gln Thr Lys Ser Pro Val
                325                 330                 335

Pro Leu Thr Cys Pro Ser Ser Cys Val Cys Thr Ser Gln Ser Ser Asp
            340                 345                 350

Asn Gly Leu Asn Val Asn Cys Gln Glu Arg Lys Phe Thr Asn Ile Ser
        355                 360                 365

Asp Leu Gln Pro Lys Pro Thr Ser Pro Lys Lys Leu Tyr Leu Thr Gly
    370                 375                 380

Asn Tyr Leu Gln Thr Val Tyr Lys Asn Asp Leu Leu Glu Tyr Ser Ser
385                 390                 395                 400

Leu Asp Leu Leu His Leu Gly Asn Asn Arg Ile Ala Val Ile Gln Glu
                405                 410                 415

Gly Ala Phe Thr Asn Leu Thr Ser Leu Arg Arg Leu Tyr Leu Asn Gly
            420                 425                 430

Asn Tyr Leu Glu Val Leu Tyr Pro Ser Met Phe Asp Gly Leu Gln Ser
        435                 440                 445

Leu Gln Tyr Leu Tyr Leu Glu Tyr Asn Val Ile Lys Glu Ile Lys Pro
    450                 455                 460

Leu Thr Phe Asp Ala Leu Ile Asn Leu Gln Leu Leu Xaa Leu Asn Asn
465                 470                 475                 480

Asn Leu Leu Arg Ser Leu Pro Asp Asn Ile Phe Gly Gly Thr Ala Leu
                485                 490                 495

Thr Arg Leu Asn Leu Arg Asn Asn His Phe Ser His Leu Pro Val Lys
            500                 505                 510

Gly Val Leu Asp Gln Leu Pro Ala Phe Ile Gln Ile Asp Leu Gln Glu
        515                 520                 525

Asn Pro Trp Asp Cys Thr Cys Asp Ile Met Gly Leu Lys Asp Trp Thr
    530                 535                 540

Glu His Ala Asn Ser Pro Val Ile Ile Asn Glu Val Thr Cys Glu Ser
545                 550                 555                 560

Pro Ala Lys His Ala Gly Glu Ile Leu Lys Phe Leu Gly Arg Glu Ala
                565                 570                 575

Ile Cys Pro Asp Ser Pro Asn Leu Ser Asp Gly Thr Val Leu Ser Met
            580                 585                 590
```

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<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (477)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 483
Met Leu Ser Gly Val Trp Phe Leu Ser Val Leu Thr Val Ala Gly Ile
1               5                   10                  15

Leu Gln Thr Glu Ser Arg Lys Thr Ala Lys Asp Ile Cys Lys Ile Arg
            20                  25                  30

Cys Leu Cys Glu Glu Lys Glu Asn Val Leu Asn Ile Asn Cys Glu Asn
        35                  40                  45

Lys Gly Phe Thr Thr Val Ser Leu Leu Gln Pro Pro Gln Tyr Arg Ile
    50                  55                  60

Tyr Gln Leu Phe Leu Asn Gly Asn Leu Leu Thr Arg Leu Tyr Pro Asn
65                  70                  75                  80

Glu Phe Val Asn Tyr Ser Asn Ala Val Thr Leu His Leu Gly Asn Asn
                85                  90                  95

Gly Leu Gln Glu Ile Arg Thr Gly Ala Phe Ser Gly Leu Lys Thr Leu
            100                 105                 110

Lys Arg Leu His Leu Asn Asn Asn Lys Leu Glu Ile Leu Arg Glu Asp
        115                 120                 125

Thr Phe Leu Gly Leu Glu Ser Leu Glu Tyr Leu Gln Ala Asp Tyr Asn
    130                 135                 140

Tyr Ile Ser Ala Ile Glu Ala Gly Ala Phe Ser Lys Leu Asn Lys Leu
145                 150                 155                 160

Lys Val Leu Ile Leu Asn Asp Asn Leu Leu Leu Ser Leu Pro Ser Asn
                165                 170                 175

Val Phe Arg Phe Val Leu Leu Thr His Leu Asp Leu Arg Gly Asn Arg
            180                 185                 190

Leu Lys Val Met Pro Phe Ala Gly Val Leu Glu His Ile Gly Gly Ile
        195                 200                 205

Met Glu Ile Gln Leu Glu Glu Asn Pro Trp Asn Cys Thr Cys Asp Leu
    210                 215                 220

Leu Pro Leu Lys Ala Trp Leu Asp Thr Ile Thr Val Phe Val Gly Glu
225                 230                 235                 240

Ile Val Cys Glu Thr Pro Phe Arg Leu His Gly Lys Asp Val Thr Gln
                245                 250                 255

Leu Thr Arg Gln Asp Leu Cys Pro Arg Lys Ser Ala Ser Asp Ser Ser
            260                 265                 270
```

```
<210> 481
<211> 23
<212> PRT
<213> Homo sapiens

<400> 481
Gly Tyr Trp Val Ser Phe Leu Leu His Val Asp Gly Val Leu Ala His
 1               5                   10                  15

Leu Thr Thr Gly Gly Gly Ile
             20


<210> 482
<211> 191
<212> PRT
<213> Homo sapiens

<400> 482
Met Leu Ser Gly Val Trp Phe Leu Ser Val Leu Thr Val Ala Gly Ile
 1               5                   10                  15

Leu Gln Thr Glu Ser Arg Lys Thr Ala Lys Asp Ile Cys Lys Ile Arg
             20                  25                  30

Cys Leu Cys Glu Glu Lys Glu Asn Val Leu Asn Ile Asn Cys Glu Asn
         35                  40                  45

Lys Gly Phe Thr Thr Val Ser Leu Leu Gln Pro Pro Gln Tyr Arg Ile
     50                  55                  60

Tyr Gln Leu Phe Leu Asn Gly Asn Leu Leu Thr Arg Leu Tyr Pro Asn
 65                  70                  75                  80

Glu Phe Val Asn Tyr Ser Asn Ala Val Thr Leu His Leu Gly Asn Asn
                 85                  90                  95

Gly Leu Gln Glu Ile Arg Thr Gly Ala Phe Ser Gly Leu Lys Thr Leu
            100                 105                 110

Lys Arg Leu His Leu Asn Asn Asn Lys Leu Glu Ile Leu Arg Glu Asp
        115                 120                 125

Thr Phe Leu Gly Leu Glu Ser Leu Glu Tyr Leu Gln Ala Asp Tyr Asn
    130                 135                 140

Tyr Ile Ser Ala Ile Glu Ala Gly Ala Phe Ser Lys Leu Asn Lys Leu
145                 150                 155                 160

Lys Val Leu Ile Leu Asn Asp Asn Leu Leu Leu Ser Leu Pro Ser Asn
                165                 170                 175

Val Phe Arg Phe Val Leu Leu Thr His Leu Asp Leu Arg Gly Asn
            180                 185                 190


<210> 483
<211> 845
```

```
Tyr Gln Leu Phe Leu Asn Gly Asn Leu Leu Thr Arg Leu Tyr Pro Asn
 65                  70                  75                  80

Glu Phe Val Asn Tyr Ser Asn Ala Val Thr Leu His Leu Gly Asn Asn
                 85                  90                  95

Gly Leu Gln Glu Ile Arg Thr Gly Ala Phe Ser Gly Leu Lys Thr Leu
            100                 105                 110

Lys Arg Leu His Leu Asn Asn Asn Lys Leu Glu Ile Leu Arg Glu Asp
        115                 120                 125

Thr Phe Leu Gly Leu Glu Ser Leu Glu Tyr Leu Gln Ala Asp Tyr Asn
    130                 135                 140

Tyr Ile Ser Ala Ile Glu Ala Gly Ala Phe Ser Lys Leu Asn Lys Leu
145                 150                 155                 160

Lys Val Leu Ile Leu Asn Asp Asn Leu Leu Leu Ser Leu Pro Ser Asn
                165                 170                 175

Val Phe Arg Phe Val Leu Leu Thr His Leu Asp Leu Arg Gly Asn Arg
            180                 185                 190

Leu Lys Val Met Pro Phe Ala Gly Val Leu Glu His Ile Gly Gly Ile
        195                 200                 205

Met Glu Ile Gln Leu Glu Glu Asn Pro Trp Asn Cys Thr Cys Asp Leu
    210                 215                 220

Leu Pro Leu Lys Ala Trp Leu Asp Thr Ile Thr Val Phe Val Gly Glu
225                 230                 235                 240

Ile Val Cys Glu Thr Pro Phe Arg Leu His Gly Lys Asp Val Thr Gln
                245                 250                 255

Leu Thr Arg Gln Asp Leu Cys Pro Arg Lys Ser Ala Ser Asp Ser Ser
            260                 265                 270

Gln Arg Gly Ser His Ala Asp Thr His Val Gln Arg Leu Ser Pro Thr
        275                 280                 285

Met Asn Pro Ala Leu Asn Pro Thr Arg Ala Pro Lys Ala Ser Arg Pro
    290                 295                 300

Pro Lys Met Arg Asn Arg Pro Thr Xaa Arg Val Xaa Val Ser Lys Asp
305                 310                 315                 320

Arg Gln Ser Phe Gly Pro Ile Met Val Tyr Gln Thr Xaa Val Xaa Cys
                325                 330                 335

Ala Xaa Xaa Leu Ser Gln Gln Leu Cys Leu His Leu Ser Glu Leu Xaa
            340                 345                 350

Gln Trp Xaa Glu Cys Lys Leu Pro Arg Lys Glu Val His
        355                 360                 365
```

<210> 480
<211> 365
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (313)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (316)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (333)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (335)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (338)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (339)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (352)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (355)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 480
Met Leu Ser Gly Val Trp Phe Leu Ser Val Leu Thr Val Ala Gly Ile
1 5 10 15

Leu Gln Thr Glu Ser Arg Lys Thr Ala Lys Asp Ile Cys Lys Ile Arg
20 25 30

Cys Leu Cys Glu Glu Lys Glu Asn Val Leu Asn Ile Asn Cys Glu Asn
35 40 45

Lys Gly Phe Thr Thr Val Ser Leu Leu Gln Pro Pro Gln Tyr Arg Ile
50 55 60

```
<210> 476
<211> 2
<212> PRT
<213> Homo sapiens

<400> 476
Leu His
 1



<210> 477
<211> 43
<212> PRT
<213> Homo sapiens

<400> 477
Met Phe Asn Leu Ser Phe Phe Thr Leu Tyr Gly Leu Cys Met Leu Lys
 1               5                  10                  15

Leu His Ser Ala Ser Ser Trp Phe Thr Leu Leu Leu Leu Ile Ser Leu
            20                  25                  30

Phe Leu Ser Val Val Tyr Cys Gln Ser Thr Asn
        35                  40



<210> 478
<211> 47
<212> PRT
<213> Homo sapiens

<400> 478
Met Ser Leu Leu Leu Pro Pro Leu Ala Leu Leu Leu Leu Leu Ala Ala
 1               5                  10                  15

Leu Val Ala Pro Ala Thr Ala Ala Thr Ala Tyr Arg Pro Asp Trp Asn
            20                  25                  30

Arg Leu Ser Gly Leu Thr Arg Ala Arg Val Glu Thr Cys Gly Gly
        35                  40                  45



<210> 479
<211> 47
<212> PRT
<213> Homo sapiens

<400> 479
Met Ser Leu Leu Leu Pro Pro Leu Ala Leu Leu Leu Leu Leu Ala Ala
 1               5                  10                  15

Leu Val Ala Pro Ala Thr Ala Ala Thr Ala Tyr Arg Pro Asp Trp Asn
            20                  25                  30

Arg Leu Ser Gly Leu Thr Arg Ala Arg Val Glu Thr Cys Gly Gly
        35                  40                  45
```

```
    210                 215                 220

Pro Arg His Ser Val Leu Ser Leu Val Asp Ile Pro Ser Gly Gln Val
225                 230                 235                 240

Leu Pro Gln Gly Gln
                245



<210> 473
<211> 43
<212> PRT
<213> Homo sapiens

<400> 473
Met Ala Ala Arg Gly Arg Ser Gly Val Gly Pro Pro Gly Phe Leu Arg
 1               5                   10                  15

Ala Leu Ala Leu Leu Gln Leu Ser Cys Gly Phe Tyr Trp Ala Cys Ser
            20                  25                  30

Arg Gly Trp Met Val Arg Gly Thr Pro His Pro
        35                  40



<210> 474
<211> 43
<212> PRT
<213> Homo sapiens

<400> 474
Met Ala Ala Arg Gly Arg Ser Gly Val Gly Pro Pro Gly Phe Leu Arg
 1               5                   10                  15

Ala Leu Ala Leu Leu Gln Leu Ser Cys Gly Phe Tyr Trp Ala Cys Ser
            20                  25                  30

Arg Gly Trp Met Val Arg Gly Thr Pro His Pro
        35                  40



<210> 475
<211> 43
<212> PRT
<213> Homo sapiens

<400> 475
Met Phe Asn Leu Ser Phe Phe Thr Leu Tyr Gly Leu Cys Met Leu Lys
 1               5                   10                  15

Leu His Ser Ala Ser Ser Trp Phe Thr Leu Leu Leu Leu Ile Ser Leu
            20                  25                  30

Phe Leu Ser Val Val Tyr Cys Gln Ser Thr Asn
        35                  40
```

```
Phe Ala Pro Arg Leu Ala Val Thr Ser Val Lys Ala Asp Arg Arg Glu
             20                  25                  30

Met Gly Pro Ser Ser Ser Val Val Ala Ala Ser Pro Ser Leu Gln Asp
         35                  40                  45

Arg Val Ile Ile Thr Ile Asn Asn Pro Ser Arg Val Lys Lys Lys Lys
     50                  55                  60

Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys
 65                  70                  75


<210> 472
<211> 245
<212> PRT
<213> Homo sapiens

<400> 472
Ala Trp Arg Arg Arg Arg Ser Gly Thr Ser Gly Lys Ala Thr Trp Trp
  1               5                   10                  15

Cys Ser Gly Leu Arg Arg Ala Ser Pro Thr Pro Ser Arg Arg Val Gln
             20                  25                  30

Ser Trp Ala Thr Ala Val Met Trp Lys Pro Ser Pro Ser Ser Ser Pro
         35                  40                  45

Ala Ser Trp Ser Cys Thr Ala Leu Arg Ala Pro Gln Ser Cys Leu Arg
     50                  55                  60

Ala Ala Thr Val Arg Pro Val Thr Leu Gln Ala Arg Ala Asp Ser Pro
 65                  70                  75                  80

Thr Val Pro Glu Pro Val His Arg Pro Gln Asp Pro Trp His Ile Pro
                 85                  90                  95

Gly Val Pro Glu Pro Val His Arg Pro Gln Asp Pro Trp His Ile Pro
            100                 105                 110

Gly Val Pro Glu Pro Val His Arg Pro Gln Asp Pro Trp His Ile Pro
        115                 120                 125

Gly Val Pro Glu Pro Val His Arg Pro Gln Asp Pro Trp Pro Trp Leu
    130                 135                 140

Gln Leu Val Pro Pro Ala Glu Leu Ala Tyr Cys Leu Leu Met Leu Leu
145                 150                 155                 160

Leu Ala His Cys Met Lys Gln Gln Ala Arg Pro Gly His Pro Asp Phe
                165                 170                 175

Leu His Arg Glu Ala Trp Ala Cys Leu Ser Ala Ala Gly Gly Leu Ala
            180                 185                 190

Ser Pro Gly Leu Leu Leu Trp Ala Thr Ala Arg Pro Arg Ala Ser Gly
        195                 200                 205

Glu Ala Gly Pro Gly Arg Ala Leu Val Gly Ala Asp Ala Ala Cys Cys
```

```
Lys Gly Ile Pro Glu Ile Cys Leu Phe His Ile
    130                 135



<210> 468
<211> 43
<212> PRT
<213> Homo sapiens

<400> 468
Met Leu Ala Ile Lys Val Leu Ile Val Val Phe Leu Leu Gln Leu Ser
  1               5                  10                  15

Trp Cys Phe Leu Leu Val Leu Leu Phe His Ser Leu Ile Lys Gly Thr
            20                  25                  30

Met Ile Asp Ile Pro Ala Pro Tyr Lys Glu Ile
        35                  40



<210> 469
<211> 38
<212> PRT
<213> Homo sapiens

<400> 469
Cys Phe Leu Leu Ala Asp Val Gly Asn Ser Ile Ile Phe Ile Thr Asn
  1               5                  10                  15

Phe Met Glu Gln His Gln Phe Arg Val Lys Leu Glu Asn Gln Cys Ile
            20                  25                  30

Leu Ile Phe Val Asp Tyr
        35



<210> 470
<211> 4
<212> PRT
<213> Homo sapiens

<400> 470
Val Gly Phe Leu
  1



<210> 471
<211> 77
<212> PRT
<213> Homo sapiens

<400> 471
Ala Pro Arg Arg Gln Ala Gln Glu Trp Leu Gly Arg Thr Gly Asn Thr
  1               5                  10                  15
```

<223> Xaa equals any of the naturally occurring L-amino acids

<400> 465
Ser Arg Cys Ala Gly Ala Pro Leu Gln Asn Asn Gly Pro Val Arg Glu
1 5 10 15

Ala Thr Xaa Leu Thr Leu Gln Asn Xaa Gly Pro Xaa Arg Glu Ala Thr
20 25 30

His Leu Thr Leu Gln Asn Asn Gly Pro Met Arg Glu Ala Xaa His Leu
35 40 45

Val Leu His Lys Trp Ser Ile Cys Leu Arg
50 55

<210> 466
<211> 27
<212> PRT
<213> Homo sapiens

<400> 466
Met Pro Tyr Gly Pro Asp Pro Ile Leu Ser Asn Val Leu Leu Ala Gly
1 5 10 15

Tyr Ile Val Leu Gln Thr Leu Ser Cys Pro Arg
20 25

<210> 467
<211> 139
<212> PRT
<213> Homo sapiens

<400> 467
Met Val Thr Val Gly Leu Val Ile Cys Phe Ser Glu Trp Cys Cys Ala
1 5 10 15

Gly Gly Leu Ser Ala Glu Gln Thr Val Ser Asp Lys His Ile Asp Ala
20 25 30

Leu Met Lys Glu Lys Glu Ala Gly Lys Ser Ser Gly His Tyr Asp Pro
35 40 45

Arg His Gln Gly Gln Ala Leu Glu Glu Pro Ser Val His Ser Cys Ile
50 55 60

Tyr Tyr Leu Leu Thr Glu Gln Thr Gln Lys Val Ser Thr Arg Thr Ser
65 70 75 80

Leu Leu Arg Tyr Arg Trp Pro Cys Glu Glu Val Gly Trp Cys Trp Gly
85 90 95

Leu Asp Leu Thr Gly Cys Pro Val Val Ile Gln His Glu Gly Val Ala
100 105 110

Gly Ser Glu Ile Ile Ile Ser Asp Tyr Pro Leu Thr Asn Glu Asn Ile
115 120 125

```
Thr Ile Arg Ser Leu Arg Ala Trp Val Leu Pro Phe Thr Ser Val Pro
            20                  25                  30

Arg Ala Gln Gly Gly Ser Cys Cys Arg Ser Gln Trp Leu Tyr Lys Thr
        35                  40                  45

Leu Pro Pro Cys Leu Val Cys Lys Pro Val
    50                  55



<210> 464
<211> 58
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (52)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 464
Met Ala Val Phe Leu Ile Ser Ser Ser Tyr Phe Leu Leu Cys Val Phe
 1               5                  10                  15

Thr Ile Arg Ser Leu Arg Ala Trp Val Leu Pro Phe Thr Ser Val Pro
            20                  25                  30

Arg Ala Gln Gly Gly Ser Cys Cys Arg Ser Gln Trp Leu Tyr Lys Thr
        35                  40                  45

Leu Pro Pro Xaa Leu Val Cys Lys Pro Val
    50                  55



<210> 465
<211> 58
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (19)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (25)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (28)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (46)
```

Pro Ser Ser Ala His Pro Thr Val Pro Pro Tyr Pro Ser Gln Ala Thr
20 25 30

His His Thr Thr Leu Gly Pro Gly Pro Gln His Gln Pro Ser Gly Thr
35 40 45

Gly Pro His Cys Pro Leu Pro Val Thr Gly Pro His Leu Gln Pro Gln
50 55 60

Gly Pro Asn Ser Ile Pro Thr Pro Thr Ala Ser Gly Phe Cys Pro His
65 70 75 80

Pro Gly Ser Val Ala Leu Pro Trp Gly Phe Lys Asp Leu Ser Arg His
85 90 95

Leu Gln Cys Leu Asp Arg Phe Gln Phe Thr Glu His Arg Cys His Gln
100 105 110

His Phe Lys Thr Ile Thr Met Gly Gln Gly Gly Ile Lys Met Asp Ser
115 120 125

Lys Asn Ile Phe Leu Asn Val Leu
130 135

<210> 462
<211> 58
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (52)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 462
Met Ala Val Phe Leu Ile Ser Ser Ser Tyr Phe Leu Leu Cys Val Phe
1 5 10 15

Thr Ile Arg Ser Leu Arg Ala Trp Val Leu Pro Phe Thr Ser Val Pro
20 25 30

Arg Ala Gln Gly Gly Ser Cys Cys Arg Ser Gln Trp Leu Tyr Lys Thr
35 40 45

Leu Pro Pro Xaa Leu Val Cys Lys Pro Val
50 55

<210> 463
<211> 58
<212> PRT
<213> Homo sapiens

<400> 463
Met Ala Val Phe Leu Ile Ser Ser Ser Tyr Phe Leu Leu Cys Val Phe
1 5 10 15

```
Leu Ile Leu Leu Gln Gly Ser Trp Phe Phe Gln Ile Gly Phe Val Leu
        195                 200                 205

Tyr Pro Pro Ser Gly Gly Pro Ala Trp Asp Leu Met Asp His Glu Asn
    210                 215                 220

Ile Leu Phe Leu Thr Ile Cys Phe Cys Trp His Tyr Ala Val Thr Ile
225                 230                 235                 240

Val Ile Val Gly Met Asn Tyr Ala Phe Ile Thr Trp Leu Val Lys Ser
                245                 250                 255

Arg Leu Lys Arg Leu Cys Ser Ser Glu Val Gly Leu Leu Lys Asn Ala
            260                 265                 270

Glu Arg Glu Gln Glu Ser Glu Glu Glu Met
        275                 280



<210> 459
<211> 19
<212> PRT
<213> Homo sapiens

<400> 459
Met Val Ser Ile Leu Tyr Leu Gly Leu Phe Phe Leu Asn Ser Ser Val
 1               5                  10                  15

Leu Tyr Ala



<210> 460
<211> 47
<212> PRT
<213> Homo sapiens

<400> 460
Met Arg Val Gln Glu Leu Leu Leu Phe Leu Val Gly Gly Gly Val Thr
 1               5                  10                  15

Glu Gly Cys Thr Glu Glu Val Thr Pro Leu Cys Leu Phe Leu Ala Asn
            20                  25                  30

Asn Glu Val Leu Arg Thr Leu Thr Cys Arg Gln Ser Leu Ala Gln
        35                  40                  45



<210> 461
<211> 136
<212> PRT
<213> Homo sapiens

<400> 461
Ser Ala Gln Ala Leu His His Pro Pro His Gln Gly Pro Pro Leu Phe
 1               5                  10                  15
```

```
Glu Ala Ile Cys Lys Leu His Thr
            20



<210> 457
<211> 19
<212> PRT
<213> Homo sapiens

<400> 457
Met Val Ser Ile Leu Tyr Leu Gly Leu Phe Phe Leu Asn Ser Ser Val
 1               5                  10                  15

Leu Tyr Ala



<210> 458
<211> 282
<212> PRT
<213> Homo sapiens

<400> 458
Val Asn Arg Pro Ser Trp Ile Met Gly Asn Phe Arg Gly His Ala Leu
 1               5                  10                  15

Pro Gly Thr Phe Phe Phe Ile Ile Gly Leu Trp Trp Cys Thr Lys Ser
            20                  25                  30

Ile Leu Lys Tyr Ile Cys Lys Lys Gln Lys Arg Thr Cys Tyr Leu Gly
        35                  40                  45

Ser Lys Thr Leu Phe Tyr Arg Leu Glu Ile Leu Glu Gly Ile Thr Ile
    50                  55                  60

Val Gly Met Ala Leu Thr Gly Met Ala Gly Glu Gln Phe Ile Pro Gly
65                  70                  75                  80

Gly Pro His Leu Met Leu Tyr Asp Tyr Lys Gln Gly His Trp Asn Gln
                85                  90                  95

Leu Leu Gly Trp His His Phe Thr Met Tyr Phe Phe Phe Gly Leu Leu
            100                 105                 110

Gly Val Ala Asp Ile Leu Cys Phe Thr Ile Ser Ser Leu Pro Val Ser
        115                 120                 125

Leu Thr Lys Leu Met Leu Ser Asn Ala Leu Phe Val Glu Ala Phe Ile
    130                 135                 140

Phe Tyr Asn His Thr His Gly Arg Glu Met Leu Asp Ile Phe Val His
145                 150                 155                 160

Gln Leu Leu Val Leu Val Val Phe Leu Thr Gly Leu Val Ala Phe Leu
                165                 170                 175

Glu Phe Leu Val Arg Asn Asn Val Leu Leu Glu Leu Leu Arg Ser Ser
            180                 185                 190
```

```
                85                  90                  95

Gly Ile Thr Ile Val Gly Met Ala Leu Thr Gly Met Ala Gly Glu Gln
            100                 105                 110

Phe Ile Pro Gly Gly Pro His Leu Met Leu Tyr Asp Tyr Lys Gln Gly
        115                 120                 125

His Trp Asn Gln Leu Leu Gly Trp His His Phe Thr Met Tyr Phe Phe
    130                 135                 140

Phe Gly Leu Leu Gly Val Ala Asp Ile Leu Cys Phe Thr Ile Ser Ser
145                 150                 155                 160

Leu Pro Val Ser Leu Thr Lys Leu Met Leu Ser Asn Ala Leu Phe Val
                165                 170                 175

Glu Ala Phe Ile Phe Tyr Asn His Thr His Gly Arg Glu Met Leu Asp
            180                 185                 190

Ile Phe Val His Gln Leu Leu Val Leu Val Val Phe Leu Thr Gly Leu
        195                 200                 205

Val Ala Phe Leu Glu Phe Leu Val Arg Asn Asn Val Leu Leu Glu Leu
    210                 215                 220

Leu Arg Ser Ser Leu Ile Leu Leu Gln Gly Ser Trp Phe Phe Gln Ile
225                 230                 235                 240

Gly Phe Val Leu Tyr Pro Pro Ser Gly Gly Pro Ala Trp Asp Leu Met
                245                 250                 255

Asp His Glu Asn Ile Leu Phe Leu Thr Ile Cys Phe Cys Trp His Tyr
            260                 265                 270

Ala Val Thr Ile Val Ile Val Gly Met Asn Tyr Ala Phe Ile Thr Trp
        275                 280                 285

Leu Val Lys Ser Arg Leu Lys Arg Leu Cys Ser Ser Glu Val Gly Leu
    290                 295                 300

Leu Lys Asn Ala Glu Arg Glu Gln Glu Ser Glu Glu Glu Met
305                 310                 315


<210> 456
<211> 24
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (2)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 456
Leu Xaa Lys Leu Lys Met Phe Tyr Lys Phe Ala Phe Lys Phe Ser Tyr
  1               5                  10                  15
```

```
<400> 453
Glu Gln Leu Leu Glu Ser Ser Leu Ser Ser Thr Ser Cys Glu Thr Leu
1               5                   10                  15

Ser Ser Tyr Ala Ser Gly Arg Trp Leu Leu Ser Pro His Thr Pro Ala
            20                  25                  30

Cys Arg Val Arg Xaa Tyr Ile Xaa Gly Thr Asp Arg Met Trp Xaa Pro
        35                  40                  45

Arg Ser Met Pro Ser Ala Thr Asp Ile Ala
    50                  55


<210> 454
<211> 64
<212> PRT
<213> Homo sapiens

<400> 454
Met Ser Ala Thr His Pro Val Pro Trp Ser Val Thr Thr Trp Cys Phe
1               5                   10                  15

Phe Cys Thr Trp Asn Ala Thr Cys Ser Ala Gly Pro Ser Pro Gly His
            20                  25                  30

Arg Val Ser Ser Ser Thr Ala Ser Phe Ile Arg Val Ser Tyr Phe Pro
        35                  40                  45

Ser Tyr Phe Ser Ser Pro Leu Ser Val Thr Cys Val Pro Val Ser Ser
    50                  55                  60


<210> 455
<211> 318
<212> PRT
<213> Homo sapiens

<400> 455
Glu Ala Lys Ala Gln Phe Trp Leu Leu His Ser Tyr Leu Phe Cys His
1               5                   10                  15

Ser Ser Asn Val Pro Asp Leu Leu Arg Pro Arg Met Thr Asn Asp Ser
            20                  25                  30

Glu Gly Lys Met Gly Phe Lys His Pro Lys Ile Met Gly Asn Phe Arg
        35                  40                  45

Gly His Ala Leu Pro Gly Thr Phe Phe Phe Ile Ile Gly Leu Trp Trp
    50                  55                  60

Cys Thr Lys Ser Ile Leu Lys Tyr Ile Cys Lys Lys Gln Lys Arg Thr
65                  70                  75                  80

Cys Tyr Leu Gly Ser Lys Thr Leu Phe Tyr Arg Leu Glu Ile Leu Glu
```

```
<400> 451
Gln Phe Lys Gln Tyr Arg Tyr Ala Xaa Gly Met Leu Arg Gly Pro His
 1               5                  10                  15

Ile Pro Val Ser Tyr Pro Asn Met Tyr Phe
            20                  25



<210> 452
<211> 62
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (58)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (62)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 452
Met His Phe Ala Ala Pro Phe Gln Leu Gln Ser Gln Thr Phe Arg Tyr
 1               5                  10                  15

Glu Val Gly Ser Val Arg Lys Ser Gln Gln Val Leu Lys Ala Val Val
            20                  25                  30

Thr Ala Leu Leu Ile Pro Ala Phe Ser Ser Leu Ser Ser Lys Ala Cys
        35                  40                  45

Lys Ala Ser Phe Gly Lys Lys Lys Lys Xaa Lys Gly Lys Xaa
    50                  55                  60



<210> 453
<211> 58
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (37)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (40)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (47)
<223> Xaa equals any of the naturally occurring L-amino acids
```

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<210> 448
<211> 31
<212> PRT
<213> Homo sapiens

<400> 448
Met Pro Leu Ser Arg Phe Trp Leu Leu Leu Leu Phe Leu Pro Ser His
 1               5                   10                  15

Ile Ser Val Leu Ser Leu Ile Arg Tyr Pro Ser Val Lys Glu Tyr
                20                  25                  30


<210> 449
<211> 43
<212> PRT
<213> Homo sapiens

<400> 449
Val Gly Ala Ser Thr Ala His Gly Leu Leu Leu Pro Leu Leu His Ile
 1               5                   10                  15

His Gly Gly Ser Ala Asn Ser Ser Ala Pro His His Pro Asn Pro Trp
                20                  25                  30

Pro Gln Ala Asp Arg Ala Trp Ser His Tyr Leu
            35                  40


<210> 450
<211> 43
<212> PRT
<213> Homo sapiens

<400> 450
Val Gly Ala Ser Thr Ala His Gly Leu Leu Leu Pro Leu Leu His Ile
 1               5                   10                  15

His Gly Gly Ser Ala Asn Ser Ser Ala Pro His His Pro Asn Pro Trp
                20                  25                  30

Pro Gln Ala Asp Arg Ala Trp Ser His Tyr Leu
            35                  40


<210> 451
<211> 26
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (9)
<223> Xaa equals any of the naturally occurring L-amino acids
```

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<210> 445
<211> 87
<212> PRT
<213> Homo sapiens

<400> 445
Pro Cys Cys Phe Leu Cys Leu Val Cys Ser Ser Ser Asp Ser His Lys
 1               5                   10                  15

Ala Ser Ser Ser Ser Ser Pro Thr Leu Ser Thr Pro Leu Pro Cys Leu
             20                  25                  30

Phe Ser Ser His Thr Ser Leu Leu Arg Asn Phe His Ile Ala Ser Leu
         35                  40                  45

Leu Leu Thr Pro Pro Gln Ala Pro Gln Gly Trp Ala Phe Pro Ala Ser
     50                  55                  60

Leu Thr Ala Ala Ala Leu Val Pro Gly Pro Val Pro Gly Thr Gln Leu
 65                  70                  75                  80

Val Ala Arg Met Leu Ile Thr
                 85


<210> 446
<211> 52
<212> PRT
<213> Homo sapiens

<400> 446
Met Val Glu His Leu His Leu Thr Tyr His Tyr Leu Lys Leu Pro Cys
 1               5                   10                  15

Ile Phe Ala Cys Leu Leu Leu Tyr Trp Phe Ser Pro Leu Leu Asn Ser
             20                  25                  30

Lys Leu Gln Asp Ser Arg Asp Leu Val Cys Phe Leu Asn Gln Trp His
         35                  40                  45

Thr Val Cys Ala
     50


<210> 447
<211> 31
<212> PRT
<213> Homo sapiens

<400> 447
Met Pro Leu Ser Arg Phe Trp Leu Leu Leu Leu Phe Leu Pro Ser His
 1               5                   10                  15

Ile Ser Val Leu Ser Leu Ile Arg Tyr Pro Ser Val Lys Glu Tyr
             20                  25                  30
```

```
<210> 441
<211> 6
<212> PRT
<213> Homo sapiens

<400> 441
Pro Cys Asp Val His Phe
 1               5



<210> 442
<211> 60
<212> PRT
<213> Homo sapiens

<400> 442
Met Trp Asp Leu Ser Pro Ser Thr Leu Ser Leu Leu Leu Leu Leu Ser
 1               5                  10                  15

Pro Cys Asp Val Pro Ala Leu Ala Leu Pro Ser Ala Met Ser Lys Ser
            20                  25                  30

Leu Leu Ser Leu Leu Arg Ser Arg Cys Cys His Ala Ser Trp Thr Ala
        35                  40                  45

Cys Arg Thr Val Asn Gln Leu Asn Leu Phe Ser Leu
    50                  55                  60



<210> 443
<211> 52
<212> PRT
<213> Homo sapiens

<400> 443
Met Val Glu His Leu His Leu Thr Tyr His Tyr Leu Lys Leu Pro Cys
 1               5                  10                  15

Ile Phe Ala Cys Leu Leu Leu Tyr Trp Phe Ser Pro Leu Leu Asn Ser
            20                  25                  30

Lys Leu Gln Asp Ser Arg Asp Leu Val Cys Phe Leu Asn Gln Trp His
        35                  40                  45

Thr Val Cys Ala
    50



<210> 444
<211> 8
<212> PRT
<213> Homo sapiens

<400> 444
Pro Cys Cys Phe Leu Cys Leu Val
 1               5
```

```
                20                  25                  30

Gly Ser His Ile Gly Ile Pro Gly Ser Leu Leu Glu Leu Arg His His
        35                  40                  45

Pro Arg Ser Asn Glu Ser Glu Ser Ala Cys
    50                  55



<210> 438
<211> 58
<212> PRT
<213> Homo sapiens

<400> 438
Met Ala Trp Ser Arg Ala Ala Trp Thr Val Met Arg Ser Leu Leu Ile
1               5                   10                  15

Cys Trp Leu Val Ser Ala Tyr Ile Leu Ala Thr Val Thr Asp Val Gln
            20                  25                  30

Gly Ser His Ile Gly Ile Pro Gly Ser Leu Leu Glu Leu Arg His His
        35                  40                  45

Pro Arg Ser Asn Glu Ser Glu Ser Ala Cys
    50                  55



<210> 439
<211> 14
<212> PRT
<213> Homo sapiens

<400> 439
Trp Arg Arg Gln Ala Arg Val Glu Ser Leu Leu Pro Met Leu
1               5                   10



<210> 440
<211> 60
<212> PRT
<213> Homo sapiens

<400> 440
Met Trp Asp Leu Ser Pro Ser Thr Leu Ser Leu Leu Leu Leu Leu Ser
1               5                   10                  15

Pro Cys Asp Val Pro Ala Leu Ala Leu Pro Ser Ala Met Ser Lys Ser
            20                  25                  30

Leu Leu Ser Leu Leu Arg Ser Arg Cys Cys His Ala Ser Trp Thr Ala
        35                  40                  45

Cys Arg Thr Val Asn Gln Leu Asn Leu Phe Ser Leu
    50                  55                  60
```

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<220>
<221> SITE
<222> (12)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (14)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (38)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 435
Pro Ile Ser Thr Lys Asn Arg Lys Ile Ser Arg Xaa Trp Xaa Cys Val
 1               5                   10                  15

Pro Val Ile Pro Ala Thr Arg Glu Ala Glu Ala Gly Glu Ser Leu Glu
             20                  25                  30

Pro Arg Arg Trp Arg Xaa
         35


<210> 436
<211> 74
<212> PRT
<213> Homo sapiens

<400> 436
Leu Tyr Gly Lys Ser Lys Thr Glu Val Lys Ile Ser Pro Val Ser Asn
 1               5                   10                  15

Leu His Ser Phe Arg Leu Gln Gly Val Ser Leu Tyr Val Glu Ala Gly
             20                  25                  30

Ser Leu Val Glu Phe Gln Gly Ser Lys Arg Gly Thr Asn Ile Cys Arg
         35                  40                  45

Phe Cys Leu Leu Trp Gly Asn Ser Phe Asn His Gln Glu Asn Ser Ser
     50                  55                  60

Ile Gly Phe Ile Cys Ser Gly Leu Pro Arg
 65                  70


<210> 437
<211> 58
<212> PRT
<213> Homo sapiens

<400> 437
Met Ala Trp Ser Arg Ala Ala Trp Thr Val Met Arg Ser Leu Leu Ile
 1               5                   10                  15

Cys Trp Leu Val Ser Ala Tyr Ile Leu Ala Thr Val Thr Asp Val Gln
```

<220>
<221> SITE
<222> (5)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (35)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (36)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 433
```
Ser Gly Phe Val Xaa Ala Trp Ser Ile Leu Thr Pro Gly Cys Ile Ser
 1               5                  10                  15

Pro Ala Gly Glu Lys Cys Arg Gly Gly Lys Gln Ser Leu Gly Thr Asn
            20                  25                  30

Tyr Phe Xaa Xaa Val Leu Leu Ala Thr Asp Ser
        35                  40
```

<210> 434
<211> 76
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (73)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 434
```
Met His Leu Pro Leu Ser Thr Lys Gly Ile Leu Pro Arg Ile Leu Leu
 1               5                  10                  15

Leu Phe Ile Lys Thr Leu Phe Ala Phe Leu Leu Ser Asp Gln Cys Lys
            20                  25                  30

Gly Leu Ala His Leu Trp Leu Arg Arg Arg Glu Cys Gly Pro Gly Gly
        35                  40                  45

Leu Thr Cys Ala Ala Glu Glu Leu Lys Ser Tyr Thr Ser Ile Phe Ala
    50                  55                  60

Pro Lys Leu Gly Val Val Gly Gly Xaa Glu Met Lys
 65                  70                  75
```

<210> 435
<211> 38
<212> PRT
<213> Homo sapiens

<221> SITE
<222> (7)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (13)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (17)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 431
Leu Gly Lys Val Gly Asn Xaa Cys Arg Tyr Arg Ser Xaa Ile Pro Gly
1 5 10 15

Xaa Thr His Ala Ser Gly Leu Glu Ser Thr Phe Glu Leu Pro Glu Glu
20 25 30

Phe Arg Phe Leu Leu Val Ser Phe Val Phe Gln Thr His Glu Met Ala
35 40 45

Thr Asp Asp Lys Thr Ser Pro Thr Leu Asp Ser Ala Asn Asp Leu Pro
50 55 60

Arg Ser Pro Thr Ser Ser Ser His Leu Thr His Phe Lys Pro Leu Thr
65 70 75 80

Pro Asp Gln Asp Glu Pro Pro Phe Lys Ser Ala Tyr Ser Ser Phe Val
85 90 95

Asn Leu Phe Arg Phe Asn Lys Gly Lys Thr Tyr
100 105

<210> 432
<211> 46
<212> PRT
<213> Homo sapiens

<400> 432
Met Cys Cys Arg Ala Ile Ser Gly Cys Cys Gly Thr Cys Leu Ala Cys
1 5 10 15

Leu Cys Ser Thr Ala Ser Gly Ala Pro Gln Pro Trp Pro Cys Ser Arg
20 25 30

Gln Ser Thr Trp Arg Leu Ile Pro Arg Pro Ser Ala Pro Thr
35 40 45

<210> 433
<211> 43
<212> PRT
<213> Homo sapiens

Serial No. 09/701,947
Group No. 1653
Confirmation No. 9854

```
<210> 429
<211> 80
<212> PRT
<213> Homo sapiens

<400> 429
Met Ser Leu Ile Trp Arg Asp Val Tyr Leu Tyr Gly Cys Gly Cys Ile
 1               5                   10                  15

Cys His Gly Arg Cys Cys Ala Gly Phe Pro Gln His Ser Arg His Val
            20                  25                  30

Trp Arg Thr Asn Ala Gly Leu Ile Leu Pro Gly Asn Arg Val Pro Phe
        35                  40                  45

Cys Glu Leu Glu Gly Cys Thr Arg Arg Ser Ser Tyr Trp Asn His Leu
    50                  55                  60

Val Ile Leu Gly Gly His Trp Gly Leu His Leu Pro Cys Thr Ser Leu
65                  70                  75                  80



<210> 430
<211> 80
<212> PRT
<213> Homo sapiens

<400> 430
Met Ser Leu Ile Trp Arg Asp Val Tyr Leu
 1               5                   10

Cys His Gly Arg Cys Cys Ala Gly Phe Pro
            20                  25

Trp Arg Thr Asn Ala Gly Leu Ile Leu Pro
        35                  40

Cys Glu Leu Glu Gly Cys Thr Arg Arg Ser
    50                  55                  60

Val Ile Leu Gly Gly His Trp Gly Leu His Leu Pro Cys Thr Ser Leu
65                  70                  75                  80
```

2 of 3

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<210> 431
<211> 107
<212> PRT
<213> Homo sapiens

<220>
```

1 5 10 15

Asn Ser Arg Ala Ser Val Ala Gly Pro Ser Trp Leu Phe Cys Ser Ala
20 25 30

Pro Phe Pro His Cys Leu Ser Tyr Arg Ser His Cys Ser Ser Ser Cys
35 40 45

Leu Thr Arg Pro Pro Gly Ala Trp Gln Arg Cys Ala Ser Thr Ser Cys
50 55 60

Trp Gly Pro Trp Ser Ser Arg Ser Trp Pro Arg Gly Pro Leu Gly Pro
65 70 75 80

Thr Pro Arg Pro Ser Trp Ser Gly Trp Pro Asp Gly Gly Gly Ala Ala
85 90 95

Trp Arg Trp Met Cys Ser Pro Ser Ala Arg Ser Ala Thr Arg Pro Arg
100 105 110

Trp Ser Leu Gly Pro Pro Gly Ser Ser Trp Leu Gly Gly Ser Cys Arg
115 120 125

Ala Glu Ala Trp Xaa Arg Leu Pro Gly Ala Gly Leu Cys His Cys Thr
130 135 140

Pro Xaa Thr His Gly Arg Thr Trp Leu Ala Ala Thr Leu Cys Trp Thr
145 150 155 160

<210> 427
<211> 13
<212> PRT
<213> Homo sapiens

<400> 427
Trp Pro Ser Ser Ser Arg Thr Leu Ser Ser Ser Arg Arg
1 5 10

<210> 428
<211> 47
<212> PRT
<213> Homo sapiens

<400> 428
Ile Leu Lys Ser Glu Pro Lys Leu Val Ser Phe Ile Asn Ile Leu Gly
1 5 10 15

Lys Glu Glu Arg Lys Lys Glu Gly Gly Arg Glu Arg Lys Lys Glu Arg
20 25 30

Lys Lys Glu Arg Lys Lys Glu Arg Lys Lys Lys Lys Lys Asn Ser
35 40 45

<400> 425
Lys Ala Gly Thr Pro Ala Gly Thr Gly Pro Glu Phe Pro Gly Arg Pro
1 5 10 15

Thr Arg Pro Ile Tyr Ile Arg Arg Tyr Val Phe Lys Leu Gly Val Leu
20 25 30

Gly Trp Gly Ala Pro Ala Leu Leu Val Leu Leu Ser Leu Ser Val Lys
35 40 45

Ser Ser Val Tyr Gly Pro Cys Thr Ile Pro Val Phe Asp Ser Trp Glu
50 55 60

Asn Gly Thr Gly Phe Gln Asn Met Ser Ile Cys Trp Val Arg Ser Pro
65 70 75 80

Val Val His Ser Val Leu Val Met Gly Tyr Gly Gly Leu Thr Ser Leu
85 90 95

Phe Asn Leu Val Val Leu Ala Trp Ala Leu Trp Thr Leu Arg Arg Leu
100 105 110

Arg Glu Arg Ala Asp Ala Pro Ser Val Arg Ala Cys His Asp Thr Val
115 120 125

Thr Val Leu Gly Leu Thr Val Leu Leu Gly Thr Thr Trp Ala Leu Ala
130 135 140

Phe Phe Ser Phe Gly Val Phe Leu Leu Pro Gln Leu Phe Leu Phe Thr
145 150 155 160

Ile Leu Asn Ser Leu Tyr Gly Phe Phe Leu Phe Leu Trp Phe Cys Ser
165 170 175

Gln Arg Cys Arg Ser Glu Ala Glu Ala Lys Ala Gln Ile Glu Ala Phe
180 185 190

Ser Ser Xaa Gln Thr Thr Gln
195

<210> 426
<211> 160
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (133)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (146)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 426
Met Ser Ser Leu Ala Ser Trp Trp Pro Ser Tyr Gly Arg Thr Gln Met

```
<210> 423
<211> 47
<212> PRT
<213> Homo sapiens

<400> 423
Ser Gln Leu Leu Arg Lys Leu Arg Trp Glu Asp Gly Leu Ser Leu Gly
 1               5                   10                  15

Gly Arg Val Cys Ser Glu Pro Arg Leu His His Cys Thr Pro Ala Trp
            20                  25                  30

Val Ile Gly Pro Gly Leu Val Leu Thr Thr Thr Thr Glu Lys Lys
        35                  40                  45


<210> 424
<211> 54
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (4)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (23)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 424
Ile Glu Thr Xaa Arg Phe Gly Gly Lys Gln Met Glu Leu Gln Glu Ile
 1               5                   10                  15

Lys Ser Ile Ile Ser Ser Xaa Met Trp Trp Leu Met Pro Leu Ile Leu
            20                  25                  30

Val Thr Gln Glu Ala Glu Ala Gly Gly Ser Leu Glu Ala Arg Ser Leu
        35                  40                  45

Arg Pro Pro Trp Ala Thr
    50


<210> 425
<211> 199
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (195)
<223> Xaa equals any of the naturally occurring L-amino acids
```

```
Ser His Leu Leu Arg Thr Phe Phe Leu Val Trp Phe Val Gly Leu Pro
             20                  25                  30

Val Ala Ile Leu Gly Asn Leu Leu Glu Cys Tyr Ala Asn Val Phe Thr
         35                  40                  45

Gly Asn Gly Gly Gly Pro Glu Pro Trp Gly Gly His Leu Val Ser Glu
     50                  55                  60

Cys Leu Ala Leu Pro Gln Leu Gly Ile Gln Tyr Leu Ala Leu Ser Gly
 65                  70                  75                  80

Gly Ile Ile Trp Leu
                 85


<210> 421
<211> 64
<212> PRT
<213> Homo sapiens

<400> 421
Met Trp Glu Thr Tyr Ile Trp Leu Val Leu Thr Phe Ala Gln Lys Ala
  1               5                  10                  15

Cys Cys Met Lys Leu Thr Ala Thr Met Leu Lys Gln Ile His Ile Lys
             20                  25                  30

Lys Cys Arg Ser Ile Gln Trp Leu Leu Arg Val Asn Ser Phe Met Glu
         35                  40                  45

Ser Ser Met Ser Leu Ser Ser Lys Ile Arg Pro His Gln Arg Arg Asn
     50                  55                  60



<210> 422
<211> 64
<212> PRT
<213> Homo sapiens

<400> 422
Met Trp Glu Thr Tyr Ile Trp Leu Val Leu Thr Phe Ala Gln Lys Ala
  1               5                  10                  15

Cys Cys Met Lys Leu Thr Ala Thr Met Leu Lys Gln Ile His Ile Lys
             20                  25                  30

Lys Cys Arg Ser Ile Gln Trp Leu Leu Arg Val Asn Ser Phe Met Glu
         35                  40                  45

Ser Ser Met Ser Leu Ser Ser Lys Ile Arg Pro His Gln Arg Arg Asn
     50                  55                  60
```

Pro Pro Cys Gly Arg Thr Met Val His Trp Trp Ser Gln Lys Glu Arg
35 40 45

Gly Gly Ile Val Ser Val Trp Asn Cys Ala His Asn Val Gly Gly Gly
50 55 60

Ile Pro Pro Leu Leu Phe Leu Leu Gly Met Ala Trp Phe Asn Asp Trp
65 70 75 80

His Ala Ala Leu Tyr Met Pro Ala Phe Cys Ala Ile Leu Val Ala Leu
85 90 95

Phe Ala Phe Ala Met Met Arg Asp Thr Pro Gln Ser Cys Gly Leu Pro
100 105 110

Pro Ile Glu Glu Tyr Lys Asn Asp Tyr Pro Asp Asp Tyr Asn Glu Lys
115 120 125

Ala Glu Gln Glu Leu Thr Ala Lys Gln Pro Gly Gly Arg Arg Leu Trp
130 135 140

Leu His Pro Ala Tyr Thr Ala Ala
145 150

<210> 419
<211> 85
<212> PRT
<213> Homo sapiens

<400> 419
Met Val Met Gly Leu Lys Ala Leu Pro Glu Pro Phe Met Ser Leu Val
1 5 10 15

Ser His Leu Leu Arg Thr Phe Phe Leu Val Trp Phe Val Gly Leu Pro
20 25 30

Val Ala Ile Leu Gly Asn Leu Leu Glu Cys Tyr Ala Asn Val Phe Thr
35 40 45

Gly Asn Gly Gly Gly Pro Glu Pro Trp Gly Gly His Leu Val Ser Glu
50 55 60

Cys Leu Ala Leu Pro Gln Leu Gly Ile Gln Tyr Leu Ala Leu Ser Gly
65 70 75 80

Gly Ile Ile Trp Leu
85

<210> 420
<211> 85
<212> PRT
<213> Homo sapiens

<400> 420
Met Val Met Gly Leu Lys Ala Leu Pro Glu Pro Phe Met Ser Leu Val
1 5 10 15

<221> SITE
<222> (68)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 416
Leu Leu Phe Leu Leu Gly Met Ala Trp Phe Asn Asp Trp Xaa Ala Ala
1 5 10 15

Leu Tyr Met Pro Ala Phe Cys Ala Ile Leu Val Ala Leu Phe Ala Phe
20 25 30

Ala Met Met Arg Asp Thr Pro Gln Ser Cys Gly Leu Pro Pro Ile Glu
35 40 45

Glu Tyr Lys Asn Asp Tyr Pro Asp Asp Tyr Xaa Glu Lys Ala Glu Gln
50 55 60

Glu Leu Thr Xaa Lys Gln Pro Gly Gly Arg Arg Leu Trp Leu His Pro
65 70 75 80

Ala Tyr Thr Ala Ala
85

<210> 417
<211> 66
<212> PRT
<213> Homo sapiens

<400> 417
Met Leu Phe Met Gly Phe Val Pro Trp Ala Thr Ser Ser Ile Ala Val
1 5 10 15

Met Phe Val Leu Leu Phe Leu Cys Gly Trp Phe Gln Gly Met Gly Trp
20 25 30

Pro Pro Cys Gly Arg Thr Met Val His Trp Trp Ser Gln Lys Glu Arg
35 40 45

Gly Gly Ile Val Ser Val Trp Asn Cys Ala His Asn Val Gly Gly Trp
50 55 60

Val Phe
65

<210> 418
<211> 152
<212> PRT
<213> Homo sapiens

<400> 418
Met Leu Phe Met Gly Phe Val Pro Trp Ala Thr Ser Ser Ile Ala Val
1 5 10 15

Met Phe Val Leu Leu Phe Leu Cys Gly Trp Phe Gln Gly Met Gly Trp
20 25 30

```
        130                 135                 140


<210> 414
<211> 57
<212> PRT
<213> Homo sapiens

<400> 414
Met Leu Glu Thr Leu Ser Gln Phe Ile Ser Ile Leu Phe Val Leu Leu
1               5                   10                  15

Trp Ile Ile Ser Asp Leu Ile Leu Cys Phe Leu Lys Cys Gly Asn Pro
            20                  25                  30

Gly Thr Leu Asp Met Val Leu Pro Ile Trp Thr Asn Gln Tyr Ile His
        35                  40                  45

Ser Ser Arg Ser Ile Leu Ser Phe Ile
    50                  55


<210> 415
<211> 57
<212> PRT
<213> Homo sapiens

<400> 415
Met Leu Glu Thr Leu Ser Gln Phe Ile Ser Ile Leu Phe Val Leu Leu
1               5                   10                  15

Trp Ile Ile Ser Asp Leu Ile Leu Cys Phe Leu Lys Cys Gly Asn Pro
            20                  25                  30

Gly Thr Leu Asp Met Val Leu Pro Ile Trp Thr Asn Gln Tyr Thr His
        35                  40                  45

Ser Ser Arg Ser Ile Leu Ser Phe Ile
    50                  55


<210> 416
<211> 85
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (14)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (59)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
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```
Met Lys Ser Thr Leu Ser Ile Phe Ser Leu Trp Val Met Ile Phe Val
 1               5                  10                  15

Leu Cys Leu Gln Ile Tyr Cys Gln Thr Arg Phe Ser Ser Ser Leu Ser
            20                  25                  30

Thr Ser Phe Thr Val Leu Asn Cys Met Tyr Arg Ser Val Ile Leu Ser
        35                  40                  45

Glu Leu Thr Phe Val Lys Asp Lys Arg Ser Val Leu Asp Arg Leu Phe
    50                  55                  60

Phe Leu Leu His Val Val Val Gln His His Glu Asp Ser Ser Phe Ser
65                  70                  75                  80

Thr Glu Leu Ser Leu Tyr Phe Cys Gln Arg Ser Asp Leu Pro Leu Lys
                85                  90                  95

Ser Leu Ser Asn Leu Ser Thr Ser His His Leu His Phe Gln Ser Leu
            100                 105                 110

Arg Thr Arg Gly Arg Thr Arg Gly Ser Thr Arg Glu Phe Arg Thr Gly
        115                 120                 125

Thr Cys Arg Arg Thr Ser Phe Pro Tyr Ser Glu Ser Tyr
    130                 135                 140


<210> 413
<211> 141
<212> PRT
<213> Homo sapiens

<400> 413
Met Lys Ser Thr Leu Ser Ile Phe Ser Leu Trp Val Met Ile Phe Val
 1               5                  10                  15

Leu Cys Leu Gln Ile Tyr Cys Gln Thr Arg Phe Ser Ser Ser Leu Ser
            20                  25                  30

Thr Ser Phe Thr Val Leu Asn Cys Met Tyr Arg Ser Val Ile Leu Ser
        35                  40                  45

Glu Leu Thr Phe Val Lys Asp Lys Arg Ser Val Leu Asp Arg Leu Phe
    50                  55                  60

Phe Leu Leu His Val Val Val Gln His His Glu Asp Ser Ser Phe Ser
65                  70                  75                  80

Thr Glu Leu Ser Leu Tyr Phe Cys Gln Arg Ser Asp Leu Pro Leu Lys
                85                  90                  95

Ser Leu Ser Asn Leu Ser Thr Ser His His Leu His Phe Gln Ser Leu
            100                 105                 110

Gln Ala Thr Ile Leu Ser Cys Leu Ile Ile Ala Val Val Leu Thr Gly
        115                 120                 125

Leu Ala Leu Ser Val Asp Pro Cys Phe Ile His Arg Ile
```

Glu Asn His Arg Pro Lys Lys Pro Lys Ser Xaa Thr Arg Cys Leu Val
115 120 125

Xaa Gln Asn Trp Ser Leu Pro Pro Ile Ser Lys Asp Arg Thr Ala Gly
130 135 140

Xaa Xaa Asp Thr Asn Arg Thr Arg Arg Ser Gly Leu Xaa Leu Arg Leu
145 150 155 160

Gly

<210> 410
<211> 57
<212> PRT
<213> Homo sapiens

<400> 410
Arg Pro Val Ser Thr Lys Lys Lys Lys Val Ser Trp Ala Trp Trp Cys
1 5 10 15

Thr Ser Ile Ala Pro Ala Thr Leu Glu Ala Lys Val Arg Gly Leu Leu
20 25 30

Glu Pro Gly Arg Ser Val Ser Ala Val Ser Cys Asp Pro Ala Asn Ala
35 40 45

Leu Ser Leu Gly Ser Val Arg Pro Cys
50 55

<210> 411
<211> 58
<212> PRT
<213> Homo sapiens

<400> 411
Val Leu Cys Leu Gln Ile Tyr Cys Gln Thr Arg Phe Ser Ser Ser Leu
1 5 10 15

Ser Thr Ser Phe Thr Val Leu Asn Cys Met Tyr Arg Ser Val Ile Leu
20 25 30

Ser Glu Leu Thr Phe Val Lys Asp Lys Arg Ser Val Leu Asp Arg Tyr
35 40 45

Phe Pro Phe Ala Cys Gly Cys Pro Ala Pro
50 55

<210> 412
<211> 141
<212> PRT
<213> Homo sapiens

<400> 412

```
Pro Gly Lys Pro Lys Gly Lys Arg Arg Arg Arg Arg Gly Trp Arg Arg
305                 310                 315                 320

Val Thr Glu Gly Lys
                325
```

```
<210> 409
<211> 161
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (123)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (129)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (145)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (146)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (157)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 409
Met Thr Thr Trp Ser Cys Leu Val Ala Met Ile Val Ser Gly Val Ile
 1               5                   10                  15

Thr Ala Val Trp Ala Val Arg Ala Ala Pro Ile Trp Arg Ser Gln Val
             20                  25                  30

Lys Gln Lys Met Arg Ile Gly Lys Gln Gly Asn Cys Arg Pro Pro Arg
         35                  40                  45

Cys Ile Cys Ser Ala Leu Gly Leu Leu Ala Pro Trp Met Ala Val Val
     50                  55                  60

Leu Ser Gln Leu Ser Val Arg Cys Val Val Ser Trp Val Gln Gly Lys
 65                  70                  75                  80

Pro Ser Ser Pro Arg Pro Arg Gly Ser Ala Ala Ser Pro Ala Pro Gly
                 85                  90                  95

Ala Thr Pro Pro Thr Pro Arg Lys Pro Val Ser Trp Leu Gly Tyr Arg
            100                 105                 110
```

```
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 408
Val Pro Pro Ala Val Cys Pro Ala Gly Xaa Phe Cys Gln Asn Gln Cys
 1               5                   10                  15

Phe Thr Lys Arg Gln Tyr Pro Glu Thr Lys Ile Ile Lys Thr Asp Gly
             20                  25                  30

Lys Gly Trp Gly Leu Val Ala Lys Arg Asp Ile Arg Lys Gly Glu Phe
         35                  40                  45

Val Asn Glu Tyr Val Gly Glu Leu Ile Asp Glu Glu Glu Cys Met Ala
     50                  55                  60

Arg Ile Lys His Ala His Glu Asn Asp Ile Thr His Phe Tyr Met Leu
 65                  70                  75                  80

Thr Ile Asp Lys Asp Arg Ile Ile Asp Ala Gly Pro Lys Gly Asn Tyr
                 85                  90                  95

Ser Arg Phe Met Asn His Ser Cys Gln Pro Asn Cys Glu Thr Leu Lys
            100                 105                 110

Trp Thr Val Asn Gly Asp Thr Arg Val Gly Leu Phe Ala Val Cys Asp
        115                 120                 125

Ile Pro Ala Gly Thr Glu Leu Xaa Phe Asn Tyr Asn Leu Asp Cys Leu
    130                 135                 140

Gly Asn Glu Lys Thr Val Cys Arg Cys Gly Ala Ser Asn Cys Ser Gly
145                 150                 155                 160

Phe Leu Gly Asp Arg Pro Lys Thr Ser Thr Thr Leu Ser Ser Glu Glu
                165                 170                 175

Lys Gly Lys Lys Thr Lys Lys Lys Thr Xaa Arg Arg Arg Ala Lys Gly
            180                 185                 190

Glu Gly Lys Arg Gln Ser Glu Asp Glu Cys Phe Arg Cys Gly Asp Gly
        195                 200                 205

Gly Gln Leu Val Leu Cys Asp Arg Lys Phe Cys Thr Lys Ala Tyr His
    210                 215                 220

Leu Ser Cys Leu Gly Leu Gly Lys Arg Xaa Phe Gly Lys Trp Glu Cys
225                 230                 235                 240

Pro Trp His His Cys Asp Val Cys Gly Lys Pro Ser Thr Ser Phe Cys
                245                 250                 255

His Leu Cys Pro Asn Ser Phe Cys Lys Glu His Gln Asp Gly Thr Ala
            260                 265                 270

Phe Ser Cys Thr Pro Asp Gly Arg Ser Tyr Cys Cys Glu His Asp Leu
        275                 280                 285

Gly Ala Ala Ser Val Arg Ser Thr Lys Thr Glu Lys Pro Pro Pro Glu
    290                 295                 300
```

Leu Ser Ile Ile Phe Leu Leu Pro Arg Cys Leu Ile Pro Pro Ala Asn
20 25 30

Gly Thr Ala Gly Ser Ser Cys Ser Glu Phe Gln Thr Leu His Thr Phe
35 40 45

His Pro Gln Ala Ser Cys Ala His Ala Gly Pro Ser Asn Leu Tyr Thr
50 55 60

Phe Leu Xaa Leu Phe Asp Leu Ser Ala Lys Val Ser Pro Leu Met
65 70 75

<210> 407
<211> 79
<212> PRT
<213> Homo sapiens

<400> 407
Met Val Phe Phe Gln Ile Gln Ser Leu Leu Ser Phe Leu Ala Ser Ser
1 5 10 15

Leu Ser Ile Ile Phe Leu Leu Pro Arg Cys Leu Ile Pro Pro Ala Asn
20 25 30

Gly Thr Ala Gly Ser Ser Cys Ser Glu Phe Gln Thr Leu His Thr Phe
35 40 45

His Pro Gln Ala Ser Cys Ala His Ala Gly Pro Ser Asn Leu Tyr Thr
50 55 60

Phe Leu Arg Leu Phe Asp Leu Ser Ala Lys Val Ser Pro Leu Met
65 70 75

<210> 408
<211> 325
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (10)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (136)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (186)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (234)

```
Xaa Ser Gly Asp Leu Pro Thr Ser Ala Phe Pro Lys Cys Trp Asp Tyr
 1               5                  10                  15

Arg Pro Glu Pro Pro Cys Pro Ala Gln Ala Gln Thr Ser Val Leu Cys
             20                  25                  30

Val Thr Ser Trp Ser Arg Leu Thr Val Ser Thr Leu Thr Ser Thr Ser
         35                  40                  45

Gln Ala Glu Gly Val Arg Ala Leu Pro Ile Trp Pro Ser Ser Gln Val
     50                  55                  60

Cys Ser Ile Gln Pro
 65
```

```
<210> 405
<211> 110
<212> PRT
<213> Homo sapiens

<400> 405
Ser Gln Gln Thr Leu Leu Ile Arg Pro Cys Cys Asn Lys Gln Thr Pro
 1               5                  10                  15

Ile Thr Asn His Pro His Cys Thr Gly Gly Gly His Gly Lys His Lys
             20                  25                  30

Gln Thr Leu Pro Thr Pro Ser Cys Asn Lys Arg His Lys Val Ile Cys
         35                  40                  45

Ser Lys Ile Asn Gln Gln Thr Thr Pro Gly Cys Gly His Thr Lys Glu
     50                  55                  60

Leu His Gln Thr Pro Leu Pro Asn Ile Asn Pro Ser Phe Cys Lys Leu
 65                  70                  75                  80

Gly Ala Thr Ser Ser Leu Thr Val Lys Gly Ala Ala Ser Arg Leu Ile
                 85                  90                  95

Lys Ser Tyr Leu Pro Lys Lys Lys Lys Lys Lys Asn Ser Arg
             100                 105                 110
```

```
<210> 406
<211> 79
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (67)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 406
Met Val Phe Phe Gln Ile Gln Ser Leu Leu Ser Phe Leu Ala Ser Ser
 1               5                  10                  15
```

```
<211> 92
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (10)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (49)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 402
Ile Gly Pro Leu Leu Val Tyr Val Ser Xaa Thr His Glu Ser Leu Lys
 1               5                   10                  15

Leu Trp Gln Leu Lys Glu Thr Leu Ile Gln Ser Phe Pro Ala Leu Val
             20                  25                  30

Arg Ser Leu Gly Pro Gly Leu Leu Phe Gly Pro Pro Ile Ala Thr Gly
         35                  40                  45

Xaa Thr Gln Ala Gly Asp Met Ala Asp Lys Ser Gln Ala Gly Pro Arg
     50                  55                  60

Gly Ser Val Ser Ser Val Ala Trp Gly Pro Phe Pro Gly Gly Ser Gly
 65                  70                  75                  80

Ala Leu Ala Phe Cys Pro Leu Ile Leu Arg Ser His
                 85                  90



<210> 403
<211> 24
<212> PRT
<213> Homo sapiens

<400> 403
Met His Ile Phe Thr Ile Leu Tyr Pro Ile Ser Glu Gly Phe Phe Lys
 1               5                   10                  15

Ile Phe Asn Phe Ile Val Phe Phe
             20



<210> 404
<211> 69
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (1)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 404
```

65 70 75 80

Ala Ser Lys Asp Phe Ser Trp Trp Arg His Ser Leu Ile Thr Val Ser
85 90 95

Ile Leu Ala Phe Thr Asn Leu Leu Val Ile Phe Val Pro Thr Ile Arg
100 105 110

Asp Ile Phe Gly Phe Ile Gly Ala Ser Ala Ala Ser Met Leu Ile Phe
115 120 125

Ile Leu Pro Ser Ala Phe Tyr Ile Lys Leu Val Lys Lys Glu Pro Met
130 135 140

Lys Ser Val Gln Lys Ile Gly Ala Leu Phe Phe Leu Leu Ser Gly Val
145 150 155 160

Leu Val Met Thr Gly Ser Met Ala Leu Ile Val Leu Asp Trp Val His
165 170 175

Asn Ala Pro Gly Gly Gly His
180

<210> 400
<211> 38
<212> PRT
<213> Homo sapiens

<400> 400
Met Val Ser Lys His Ser Leu Asn Leu His Phe Phe Tyr Trp Lys Gly
1 5 10 15

Gly Cys Ala Cys Phe Thr Ser Glu Pro Arg Val Phe Val Val Val Glu
20 25 30

Leu Ser Leu Leu Asp Cys
35

<210> 401
<211> 38
<212> PRT
<213> Homo sapiens

<400> 401
Met Val Ser Lys His Ser Leu Asn Leu His Phe Phe Tyr Trp Lys Gly
1 5 10 15

Gly Cys Ala Cys Phe Thr Ser Glu Pro Arg Val Phe Val Val Val Glu
20 25 30

Leu Ser Leu Leu Asp Cys
35

<210> 402

```
<400> 397
Ile Phe Ala Leu Ser Leu Ser Phe Tyr Thr Cys Ile His Ile His Thr
1               5                   10                  15

His Arg His Thr
            20



<210> 398
<211> 117
<212> PRT
<213> Homo sapiens

<400> 398
Met Cys Thr Leu Phe Val Leu Ala Val Leu Leu Pro Val Leu Phe Leu
1               5                   10                  15

Leu Tyr Arg His Arg Asn Ser Met Lys Val Phe Leu Lys Gln Gly Glu
            20                  25                  30

Cys Ala Ser Val His Pro Lys Thr Cys Pro Val Val Leu Pro Pro Glu
        35                  40                  45

Thr Arg Pro Leu Asn Gly Leu Gly Pro Pro Ser Thr Pro Leu Asp His
    50                  55                  60

Arg Gly Tyr Gln Ser Leu Ser Asp Ser Pro Pro Gly Ala Arg Val Phe
65                  70                  75                  80

Thr Glu Ser Glu Lys Arg Pro Leu Ser Ile Gln Asp Ser Phe Val Glu
                85                  90                  95

Val Ser Pro Val Cys Pro Arg Pro Arg Val Arg Leu Gly Ser Glu Ile
            100                 105                 110

Arg Asp Ser Val Val
        115



<210> 399
<211> 183
<212> PRT
<213> Homo sapiens

<400> 399
Met Met Asn Val Ser Lys Ile Ser Phe Phe Ala Met Phe Leu Met Tyr
1               5                   10                  15

Leu Leu Ala Ala Leu Phe Gly Tyr Leu Thr Phe Tyr Glu His Val Glu
            20                  25                  30

Ser Glu Leu Leu His Thr Tyr Ser Ser Ile Leu Gly Thr Asp Ile Leu
        35                  40                  45

Leu Leu Ile Val Arg Leu Ala Val Leu Met Ala Val Thr Leu Thr Val
    50                  55                  60

Pro Val Val Ile Phe Pro Ile Arg Ser Ser Val Thr His Leu Leu Cys
```

<211> 36
<212> PRT
<213> Homo sapiens

<400> 394
Met Ala Gly His Pro Thr Leu Ile Leu Leu Cys Lys Trp Ala Phe His
1 5 10 15

Leu Thr Gly Ala Ile Cys Glu Pro Tyr Leu Asn Gln Thr Leu Pro Thr
20 25 30

Gln Ala Cys Leu
35

<210> 395
<211> 41
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (15)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 395
Met Trp Leu Met Leu Ile Leu Ser Leu Thr Ser Gly Glu Thr Xaa Ala
1 5 10 15

Leu Arg Gly Cys Cys Ser Ser Ser Trp Thr Tyr Gly Glu Ser Ala Ala
20 25 30

Gly Pro Ala Asp Gln Ala Pro Cys Leu
35 40

<210> 396
<211> 41
<212> PRT
<213> Homo sapiens

<400> 396
Met Trp Leu Met Leu Ile Leu Ser Leu Thr Ser Gly Glu Thr Glu Ala
1 5 10 15

Leu Arg Gly Cys Cys Ser Ser Ser Trp Thr Tyr Gly Glu Ser Ala Ala
20 25 30

Gly Pro Ala Asp Gln Ala Pro Cys Leu
35 40

<210> 397
<211> 20
<212> PRT
<213> Homo sapiens

Leu Gly Leu Ala Ile Ala Gln Gln Leu Ala Val Ala Ile Gly Gly Thr
405 410 415

Leu Thr Leu Ser Asn Arg Val Glu Gly Gly Leu Cys Ala Glu Ile Arg
420 425 430

Leu Ser Leu
435

<210> 391
<211> 34
<212> PRT
<213> Homo sapiens

<400> 391
Cys Lys Trp Val Gln Asn Gly Gly His Pro Asn Val Glu Ser Ser Lys
1 5 10 15

Tyr His Cys His Glu Pro Lys Ala Ser Leu Tyr Thr Leu Glu Glu Ser
20 25 30

Thr Leu

<210> 392
<211> 28
<212> PRT
<213> Homo sapiens

<400> 392
Leu Leu Leu Cys Lys Phe Lys Lys Val Asn Tyr Phe Leu Lys Val Leu
1 5 10 15

Ile Ser Asn Phe Ser Ile Trp Ala Tyr Asp His His
20 25

<210> 393
<211> 36
<212> PRT
<213> Homo sapiens

<400> 393
Met Ala Gly His Pro Thr Leu Ile Leu Leu Cys Lys Trp Ala Phe His
1 5 10 15

Leu Thr Gly Ala Ile Cys Glu Pro Tyr Leu Asn Gln Thr Leu Pro Thr
20 25 30

Gln Ala Cys Leu
35

<210> 394

```
Asn Tyr Arg Tyr Leu Leu Asn Ala Gly Glu Ala Gly Glu Pro Met Thr
                 85                  90                  95

Ser Asn Asp Val Pro Met Ala Ala Thr Ser Ile Ala Asp Ala Leu Gly
            100                 105                 110

Glu His Tyr Ala Leu Thr Phe Arg Asp Ile Pro Gly Ile Gln Lys His
        115                 120                 125

Phe Gln Val His Leu Thr Leu Ala Asp Gly Asn Pro Ile Thr Leu Asp
    130                 135                 140

Val Arg Pro Ala Ala Leu Pro Val Ala Tyr Trp Leu Pro Val Val Leu
145                 150                 155                 160

Val Leu Gln Leu Ala Leu Leu Leu Gly Cys Thr Trp Val Ala Val Arg
                165                 170                 175

Leu Ala Val Arg Pro Leu Thr Arg Leu Ala Arg Ala Val Glu Thr Leu
            180                 185                 190

Asp Pro Asn Ala His Pro Thr Pro Leu Asp Glu Thr Gly Pro Ser Glu
        195                 200                 205

Val Ala His Ala Ala Ala Ala Phe Asn Ala Met Gln Gln Arg Ile Ala
    210                 215                 220

Glu Tyr Leu Lys Glu Arg Met Gln Ile Leu Ala Ala Ile Ser His Asp
225                 230                 235                 240

Leu Gln Thr Pro Ile Thr Arg Met Lys Leu Arg Ala Glu Phe Met Asp
                245                 250                 255

Asp Ser Ala Asp Arg Glu Lys Leu Trp Ser Asp Leu Ser Glu Met Glu
            260                 265                 270

His Leu Val Arg Glu Gly Val Ala Tyr Ala Arg Ser Val His Gly Ala
        275                 280                 285

Thr Glu Ala Ser His Arg Ile Asp Leu Asp Ala Phe Leu Asp Ser Leu
    290                 295                 300

Val Phe Asp Tyr Gln Asp Met Gln Lys Gln Val Ser Leu Arg Gly Lys
305                 310                 315                 320

Ser Ala Leu Ile Leu Asp Thr Arg Pro His Ala Leu Arg Arg Val Leu
                325                 330                 335

Val Asn Leu Val Asp Asn Ala Leu Lys Phe Ala Gly Asn Ala Glu Leu
            340                 345                 350

Glu Val Gly Ser Thr Ala Asn Gly Gln Leu Ser Ile Lys Val Leu Asp
        355                 360                 365

Gln Gly Pro Gly Ile Ala Glu Asp Glu Leu Ala Gln Val Leu Gln Pro
    370                 375                 380

Phe Tyr Arg Val Glu Ser Ser Arg Asn Arg Gly Thr Gly Gly Thr Gly
385                 390                 395                 400
```

```
Arg Thr Pro Arg Arg Pro Ala Arg Ser Leu Leu Val Ala Gly Gly Ala
145                 150                 155                 160

Gly Ala Ala Thr Gly Ala Ala Ala Arg Leu His Leu Gly Arg Gly Ala
                165                 170                 175

Pro Gly Arg Ala Pro Ala Asp Thr Pro Gly Pro Cys Gly Arg Asn Pro
            180                 185                 190

Arg Pro Glu Arg Ser Pro His Thr Pro Gly Arg Asn Arg Pro Glu
        195                 200                 205



<210> 389
<211> 18
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (15)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (17)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 389
Gly Trp Pro Arg Trp Arg Arg Glu Arg Cys Ala Asn Thr Pro Xaa Val
 1               5                  10                  15

Xaa Leu



<210> 390
<211> 435
<212> PRT
<213> Homo sapiens

<400> 390
Met Arg Pro Trp Arg Phe Gly Trp Pro Arg Thr Leu Ala Ser Gln Leu
 1               5                  10                  15

Ser Leu Ile Phe Leu Ile Ser Leu Val Cys Ala His Gly Leu Ser Phe
            20                  25                  30

Ser Ala Gln Phe Tyr Glu Arg Tyr Ile Ser Ala Arg Thr Val Met Leu
        35                  40                  45

Gly Asn Leu Glu Asn Asp Val Ser Thr Ser Val Ala Ile Leu Asp Arg
    50                  55                  60

Leu Pro Ala Asn Glu Arg Ala Ser Trp Leu Ala Arg Leu Asp Arg Gln
65                  70                  75                  80
```

```
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (105)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (110)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (111)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (116)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (129)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (133)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 388
Met Arg Pro Trp Arg Phe Gly Trp Pro Arg Thr Leu Ala Ser Gln Leu
 1               5                   10                  15

Ser Leu Ile Phe Leu Ile Ser Leu Val Cys Ala His Gly Leu Ser Phe
             20                  25                  30

Ser Ala Gln Phe Tyr Glu Arg Tyr Ile Ser Ala Arg Thr Val Met Leu
         35                  40                  45

Gly Asn Leu Glu Asn Asp Val Ser Thr Ser Val Ala Ile Leu Asp Arg
     50                  55                  60

Leu Pro Ala Asn Glu Arg Ala Ile Gly Trp Arg Val Leu Arg Pro Ala
 65                  70                  75                  80

Glu Leu Pro Val Leu Leu Asn Ala Gly Glu Ala Gly Glu Pro Met Thr
                 85                  90                  95

Ser Asn Asp Val Pro Met Ala Ala Xaa Phe Asp Cys Gly Xaa Xaa Gly
            100                 105                 110

Arg Ala Leu Xaa Pro Asp Leu Ser Arg Tyr Ser Arg His Pro Glu Thr
        115                 120                 125

Xaa Pro Gly Ala Xaa Asp Pro Gly Arg Trp Gln Pro Asp His Pro Arg
    130                 135                 140
```

Pro Asp Pro Asn Ala Arg Arg Gly Xaa Asn Ala Xaa Ser Thr Arg Thr
1 5 10 15

Asp His Glu His Arg Thr Tyr Arg Leu Tyr Arg Arg Pro Ser Arg Phe
20 25 30

Arg Asp Ser Pro Ala Gln Arg Pro Tyr Pro Ala Ala Gly Tyr Val Glu
35 40 45

Thr Val Ala Arg Ala His Glu Ala Ala Gly Phe Asp Arg Ala Leu Val
50 55 60

Ala Phe His Ser Asn Ser Pro Asp Ser Thr Leu Ile Ala Ala His Ala
65 70 75 80

Ala Ser Val Thr Gln Lys Leu Gln Phe Leu Ile Ala His Arg Pro Gly
85 90 95

Xaa Ala Gln Pro Thr Leu Ala Ala Arg Gln Phe Ala Thr Leu Asp Val
100 105 110

Phe Asn Gly Gly Arg Thr Ala Val His Ile Ile Thr Gly Gly Asp Asp
115 120 125

Arg Glu Leu Arg Ala Asp Gly Ser His Ile Gly Lys Asp Glu Arg Tyr
130 135 140

Ala Arg Thr Asp Glu Tyr Leu Ser Val Val Arg Gln Glu Trp Thr His
145 150 155 160

Glu Gln Pro Xaa Asp Phe Lys Gly Thr Tyr Tyr Gln Val Glu Gly Ala
165 170 175

His Ser Thr Val Lys Ser Pro Gln Gln Pro His Ile Pro Leu Tyr Phe
180 185 190

Gly Gly Ser Xaa Arg Gly
195

<210> 387
<211> 34
<212> PRT
<213> Homo sapiens

<400> 387
Glu Leu Gly Arg Leu Arg His Pro Thr Gln Gly Lys Pro Ala Cys His
1 5 10 15

Ile Glu Cys Thr Ala Leu Ile Lys Phe Thr His Asp Asn Ser Ala Phe
20 25 30

Tyr Asn

<210> 388
<211> 207

<400> 384
```
Met Phe Leu Val Ser Pro Ser Val Ser Ser Val Val Ser Ser Leu Leu
1               5                   10                  15

Ser Ile Phe Trp Leu Met His Leu Gly Gln Val Trp Leu Gly Ser Met
            20                  25                  30

Glu Thr His Pro Ile Thr Ser
        35
```

<210> 385
<211> 39
<212> PRT
<213> Homo sapiens

<400> 385
```
Met Phe Leu Val Ser Pro Ser Val Ser Ser Val Val Ser Ser Leu Leu
1               5                   10                  15

Ser Ile Phe Trp Leu Met His Leu Gly Gln Val Trp Leu Gly Ser Met
            20                  25                  30

Glu Thr His Pro Ile Thr Ser
        35
```

<210> 386
<211> 198
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (9)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (12)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (97)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (164)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (196)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 386

```
Asn Val Pro
65


<210> 382
<211> 79
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (23)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (45)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 382
Met Gly Cys Cys Ser Lys Lys Tyr Trp Gln Leu Leu Leu Gly Ala Ala
1               5                   10                  15

Pro Trp Gly Val Ile Pro Xaa Leu Leu Leu Trp Met Gly Thr Arg Ala
            20                  25                  30

Pro His Phe Lys Asp Ser Val Ser Gln Gly Leu Pro Xaa Lys Ala Glu
        35                  40                  45

Glu Ser Arg Ala Asn Phe Asn Gln Phe Leu Val Leu Leu Met Pro Lys
    50                  55                  60

Glu Met Ile Val Leu Thr Ile Val His Pro Ile Val Arg Arg Ala
65                  70                  75


<210> 383
<211> 39
<212> PRT
<213> Homo sapiens

<400> 383
Met Phe Leu Val Ser Pro Ser Val Ser Ser Val Val Ser Ser Leu Leu
1               5                   10                  15

Ser Ile Phe Trp Leu Met His Leu Gly Gln Val Trp Leu Gly Ser Met
            20                  25                  30

Glu Thr His Pro Ile Thr Ser
        35


<210> 384
<211> 39
<212> PRT
<213> Homo sapiens
```

```
Ala Phe Asp Xaa Trp Gly Tyr Ala Leu Cys Lys Ile Gly
465                 470                 475



<210> 379
<211> 29
<212> PRT
<213> Homo sapiens

<400> 379
Asn Ser Gln Tyr Phe Thr Thr Asn Ile Ala Leu Met Phe Leu Phe Lys
  1               5                  10                  15

Lys Lys Lys Val Tyr Gly Cys Leu His Leu Ser Thr Val
             20                  25



<210> 380
<211> 70
<212> PRT
<213> Homo sapiens

<400> 380
Met His Leu Asn Val Gln Tyr Cys Thr Ile His Leu Ile Leu Leu Leu
  1               5                  10                  15

Leu Phe Ile Thr Arg His Tyr Ala Tyr Gln Trp Thr Phe Gln Val Gly
             20                  25                  30

Gly Leu Thr Val Ala Ser Ser Val Val Trp Gln His Pro Ser Ala Val
         35                  40                  45

Ser Ile Tyr Thr Leu Leu Tyr Ile Tyr Ala Pro His Gln Gly Ser Thr
     50                  55                  60

Gly Thr Arg Arg His Cys
 65                  70



<210> 381
<211> 67
<212> PRT
<213> Homo sapiens

<400> 381
Leu Gln Glu Phe Gly Thr Ser Gly Thr Ser Ala Asn Thr Thr Ala Val
  1               5                  10                  15

Ala Leu Asn Ala Pro Ala His Pro Ala Arg Leu Leu Pro Pro Gly Pro
             20                  25                  30

Ala Val Ala Leu Leu Leu Leu Arg Gly Ser Cys Ser Leu Cys Cys Cys
         35                  40                  45

His Gln Pro His Lys Ala Ser Cys Lys Ala Met Pro Ser Ala Gly Ser
     50                  55                  60
```

```
Ser Trp Gln Leu Val Leu Ala Xaa Leu Gln His Leu Val Trp Ile Leu
145                 150                 155                 160

Gly Leu Lys Pro Ser Ser Gly Gly Ala Leu Lys Pro Gly Arg Ala Val
                165                 170                 175

Glu Gly Pro Ser Thr Val Leu Thr Thr Ala Val Met Thr Asp Leu Pro
            180                 185                 190

Val Xaa Ser Asn Xaa Xaa Ser Arg Leu Phe Xaa Ser Ser Gln Tyr Leu
        195                 200                 205

Asp Asp Val Ser Leu His His Leu Ile Asn Ala Leu Cys Ser Leu Ser
    210                 215                 220

Leu Glu Ala Met Asp Met Ala Tyr Gly Asn Asn Lys Glu Pro Ser Leu
225                 230                 235                 240

Phe Ala Val Ala Lys Leu Leu Glu Thr Gly Leu Val Asn Met His Arg
                245                 250                 255

Ile Glu Ile Leu Trp Arg Pro Leu Thr Gly His Leu Leu Glu Val Cys
            260                 265                 270

Gln His Pro Asn Ser Arg Met Arg Glu Trp Gly Ala Glu Ala Leu Thr
        275                 280                 285

Ser Leu Ile Lys Ala Gly Leu Thr Phe Asn His Asp Pro Pro Leu Ser
    290                 295                 300

Gln Asn Gln Arg Leu Gln Leu Leu Leu Leu Asn Pro Leu Lys Glu Met
305                 310                 315                 320

Ser Asn Ile Asn His Pro Asp Ile Arg Leu Lys Gln Leu Glu Cys Val
                325                 330                 335

Leu Gln Ile Leu Gln Ser Gln Gly Asp Ser Leu Gly Pro Gly Trp Pro
            340                 345                 350

Leu Val Leu Gly Val Met Gly Ala Ile Arg Asn Asp Gln Gly Glu Ser
        355                 360                 365

Leu Ile Arg Thr Ala Phe Gln Cys Leu Gln Leu Val Val Thr Asp Phe
    370                 375                 380

Leu Pro Thr Met Pro Cys Thr Cys Leu Gln Ile Val Val Asp Val Ala
385                 390                 395                 400

Gly Ser Phe Gly Leu His Asn Gln Glu Leu Asn Ile Ser Leu Thr Ser
                405                 410                 415

Ile Gly Leu Leu Trp Asn Ile Ser Asp Tyr Phe Phe Gln Arg Gly Glu
            420                 425                 430

Thr Ile Glu Lys Glu Leu Asn Lys Glu Glu Ala Ala Gln Gln Lys Gln
        435                 440                 445

Ala Glu Glu Lys Gly Val Gly Leu Asn Arg Xaa Phe His Pro Xaa Pro
    450                 455                 460
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<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (197)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (198)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (203)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (459)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (463)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (468)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 378
Met Val Asn Ala Cys Trp Cys Gly Leu Leu Ala Ala Leu Ser Leu Leu
1               5                   10                  15

Leu Asp Ala Ser Thr Asp Glu Ala Ala Thr Glu Asn Ile Leu Lys Ala
            20                  25                  30

Glu Leu Thr Met Ala Ala Leu Cys Gly Lys Leu Gly Leu Val Thr Ser
        35                  40                  45

Xaa Asn Ala Phe Ile Thr Ala Ile Xaa Lys Gly Ser Leu Pro Pro His
    50                  55                  60

Tyr Ala Leu Thr Val Leu Asn Thr Thr Thr Ala Ala Thr Leu Ser Asn
65                  70                  75                  80

Lys Ser Tyr Ser Val Gln Gly Gln Ser Val Met Met Ile Ser Pro Ser
                85                  90                  95

Ser Glu Ser His Gln Gln Val Val Xaa Val Gly Gln Xaa Leu Ala Val
            100                 105                 110

Gln Pro Gln Gly Thr Val Met Leu Thr Ser Lys Asn Ile Gln Cys Met
        115                 120                 125

Arg Thr Leu Leu Asn Leu Ala His Cys His Gly Ala Val Leu Gly Thr
    130                 135                 140
```

<400> 376
Met Ala Leu Val Val Glu Ala Val Ile Ile Ile Phe Ile Glu Cys Gln
1 5 10 15

Ala Leu Cys Ile Ile Leu Ser Ser Ser His Ile Asn Arg Arg Arg Gln
20 25 30

Val Val Ile Ala Pro Phe Gly Glu Ser Glu Asn
35 40

<210> 377
<211> 24
<212> PRT
<213> Homo sapiens

<400> 377
Ser Ala Cys Phe Cys Cys Ala Ala Ser Ser Leu Phe Ser Ser Phe Ser
1 5 10 15

Ile Val Ser Pro Leu Trp Lys Lys
20

<210> 378
<211> 477
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (49)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (57)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (105)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (109)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (152)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (194)

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<210> 374
<211> 68
<212> PRT
<213> Homo sapiens

<400> 374
Met Ile Pro Phe Phe Leu Val Trp Val Ser Phe Leu His Ser Phe Ser
 1               5                   10                  15

Val Ala Cys Ile Leu Gly His His Glu Cys Phe Ala Phe Ser Leu Ala
             20                  25                  30

Asp Asp Thr Ile Gly Thr Ala Trp His Gly Gly Lys Val Ser His Lys
         35                  40                  45

Leu Thr Tyr Lys His Cys Gly Ser Arg Ala His Asp Tyr Leu Glu Gly
     50                  55                  60

Glu Ser Leu Leu
 65



<210> 375
<211> 57
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (42)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (44)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 375
Leu Leu Ser Ala Met Leu Pro Gly Glu Asn Glu Ile Val Ala Trp Ile
 1               5                   10                  15

Asn Glu Ser Val Cys Val Ala Arg Ser Gly Leu Ala Leu Asp Val Asp
             20                  25                  30

Gly Ala Pro Ala Leu Ser Pro Gln Leu Xaa Ser Xaa Lys Ile Ser Asn
         35                  40                  45

Leu Glu Glu Asn Gly Arg Thr Val Glu
     50                  55


<210> 376
<211> 43
<212> PRT
<213> Homo sapiens
```

```
<400> 371
Met Ile Pro Phe Phe Leu Val Trp Val Ser Phe Leu His Ser Phe Ser
 1               5                  10                  15

Val Ala Cys Ile Leu Gly His His Glu Cys Phe Ala Phe Ser Leu Ala
             20                  25                  30

Asp Asp Thr Ile Gly Thr Ala Trp His Gly Gly Lys Val Ser His Lys
         35                  40                  45

Leu Thr Tyr Lys His Cys Gly Ser Arg Ala His Asp Tyr Leu Glu Gly
     50                  55                  60

Glu Ser Leu Leu
 65



<210> 372
<211> 62
<212> PRT
<213> Homo sapiens

<400> 372
Val Ile Pro Phe Tyr Ile His Tyr Phe Val Tyr Phe Asn Cys Phe Ile
 1               5                  10                  15

Leu Val Thr Leu Pro Phe Lys Ile Phe Lys Leu Pro Ile Val Arg Cys
             20                  25                  30

Gln Trp Glu Trp Thr Pro Asp Gly Gln Ile Tyr Lys Trp Gln Trp Leu
         35                  40                  45

Asp Gln Thr Arg Thr Leu Glu Asp Gly Arg Val Gly Ala Lys
     50                  55                  60



<210> 373
<211> 29
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (11)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (13)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 373
Ile Pro Leu Trp Phe Ile Ser Val Ser Phe Xaa Met Xaa Arg Phe Thr
 1               5                  10                  15

Ile Leu Asn Gln Tyr His Val Thr Cys Arg Cys Gln Asn
             20                  25
```

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<222> (112)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (166)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 370
Arg Pro Asp Leu Glu Arg Val Arg Pro Trp Xaa Pro Pro Leu Pro Glu
 1               5                  10                  15

Cys Ala Gln Glu Leu Arg Glu Gly Ala Ala Pro Gly Ile Pro Pro Arg
            20                  25                  30

Gly Cys Pro Gly Leu Gly Arg Gly Ala Pro Asp Ser Thr Ser Trp Thr
        35                  40                  45

Pro Cys Ser Arg Gly Gly Glu Arg Met Thr Pro Pro Pro Ser Arg Cys
    50                  55                  60

Leu Phe Pro Pro Arg Gly Arg Pro Val Leu His Lys Pro Ala Arg Leu
65                  70                  75                  80

Gly Cys Pro Phe Val His Arg Ala Gly Lys Gly Ala Pro Arg Gly Arg
                85                  90                  95

Ser Ser Lys Pro Cys Leu Ser Phe Thr Phe Thr Phe Phe Phe Phe Xaa
            100                 105                 110

Phe Gly Arg Glu Lys Asn Arg Val Phe Asp Ser Ala Leu Phe Met Phe
        115                 120                 125

Leu Leu Gly Asn Lys Arg Trp Leu Cys Val Cys Val Phe Ser Cys Val
    130                 135                 140

Gly Phe Leu Lys Lys Trp Glu Glu Glu Lys Lys Ile Leu Arg Pro Phe
145                 150                 155                 160

Pro Arg Ser Arg Ser Xaa Leu Arg Phe Phe Arg Pro Val Pro Pro Pro
                165                 170                 175

Phe Phe Val Leu Phe Cys Phe Val Leu Leu Arg Val His Ile Pro Val
            180                 185                 190

Cys Asn Pro Trp Phe Ala Arg Phe Ser Val Phe Ser Lys Val Ser Leu
        195                 200                 205

Arg Gln Lys Pro Arg Ala Glu Phe Leu Gly Leu Glu Gly Gln Asn Phe
    210                 215                 220

Pro
225


<210> 371
<211> 68
<212> PRT
<213> Homo sapiens
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<222> (113)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 369
Ser Thr His Ala Ser Gly Arg Thr Cys Ala Leu Pro Ala Ala Ala Thr
1               5                   10                  15

Pro Arg Arg Val Gly Ala Ala Ala Pro Gly Cys Ala Gln Gly Arg Ala
            20                  25                  30

Thr Asp Gly Ala Arg Arg Ala Glu Leu Arg Arg Glu Pro Ala Val Val
        35                  40                  45

Ala His Arg His Gly His Ala Gly Ala His Gln Gly Gly Ala Gln Xaa
    50                  55                  60

Ala Ala Gln Pro His Arg Arg Leu Gln Val Pro Gln Ala Gln Ala Gly
65                  70                  75                  80

Ala His Leu Ala Pro Gly Arg Glu Ser Glu Asp Pro Gln Glu Ser Glu
                85                  90                  95

His Gly Ala Gly Val His Gly Glu Pro Ala Ala Arg Ala Gly Gly Ala
            100                 105                 110

Xaa Gln Ala Glu Ser Pro Gln Pro Arg Gln Gln Arg Leu Pro Ala Ala
        115                 120                 125

Ala Pro Ala Pro Gly Ala Arg Val Leu Ser Pro Arg Ala Gly Arg Met
    130                 135                 140

Arg Gly His Pro Pro Gln Gly Ala Gly Ser Arg Gly Gly Val Val Gly
145                 150                 155                 160

Ala Pro Asp Leu Glu Arg Val Arg Pro Trp Gly Pro Pro Leu Pro Glu
                165                 170                 175

Cys Ala Gln Glu Leu Arg Glu Gly Ala Ala Pro Gly Asp Ser Pro Pro
            180                 185                 190

Pro Arg Val Pro Arg Thr Arg Gln Ala Gly Pro Pro Ala Pro Gly Gly
        195                 200                 205

Ala Ser Ala
    210


<210> 370
<211> 225
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (11)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
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<210> 368
<211> 184
<212> PRT
<213> Homo sapiens

<400> 368
Met Asp Asn Arg Phe Ala Thr Ala Phe Val Ile Ala Cys Val Leu Ser
1 5 10 15

Leu Ile Ser Thr Ile Tyr Met Ala Ala Ser Ile Gly Thr Asp Phe Trp
20 25 30

Tyr Glu Tyr Arg Ser Pro Val Gln Glu Asn Ser Ser Asp Leu Asn Lys
35 40 45

Ser Ile Trp Asp Glu Phe Ile Ser Asp Glu Ala Asp Glu Lys Thr Tyr
50 55 60

Asn Asp Ala Leu Phe Arg Tyr Asn Gly Thr Val Gly Leu Trp Arg Arg
65 70 75 80

Cys Ile Thr Ile Pro Lys Asn Met His Trp Tyr Ser Pro Pro Glu Arg
85 90 95

Thr Glu Ser Phe Asp Val Val Thr Lys Cys Val Ser Phe Thr Leu Thr
100 105 110

Glu Gln Phe Met Glu Lys Phe Val Asp Pro Gly Asn His Asn Ser Gly
115 120 125

Ile Asp Leu Leu Arg Thr Tyr Leu Trp Arg Cys Gln Phe Leu Leu Pro
130 135 140

Phe Val Ser Leu Gly Leu Met Cys Phe Gly Ala Leu Ile Gly Leu Cys
145 150 155 160

Ala Cys Ile Cys Arg Ser Leu Tyr Pro Thr Ile Ala Thr Gly Ile Leu
165 170 175

His Leu Leu Ala Asp Thr Met Leu
180

<210> 369
<211> 211
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (64)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE

Gln Ser Val Tyr Val Ala Thr Asp Ser Glu Ser Tyr Val Pro Glu Leu
85 90 95

Gln Gln Leu Phe Lys Gly Lys Val Lys Val Val Ser Leu Lys Pro Glu
100 105 110

Val Ala Gln Val Asp Leu Tyr Ile Leu Gly Gln Ala Asp His Phe Ile
115 120 125

Gly Asn Cys Val Ser Ser Phe Thr Ala Phe Val Lys Arg Glu Arg Asp
130 135 140

Leu Gln Gly Xaa Pro Ser Ser Phe Phe Gly Met Asp Arg Pro Pro Lys
145 150 155 160

Leu Arg Asp Glu Phe
165

<210> 367
<211> 177
<212> PRT
<213> Homo sapiens

<400> 367
Leu Val Leu Trp Thr Arg Phe Tyr Arg Gly Asp Met Ser Leu His Ser
1 5 10 15

Ser Pro Thr Leu Pro Thr Ser Leu Tyr Gln Ser Cys Asp Leu Ser Val
20 25 30

Gly Gly Pro Ser Leu Leu Thr Trp Val Trp Arg Arg Glu Arg Arg Cys
35 40 45

Cys Lys Val Phe Ser Val Ser His Cys Leu Glu Ala Gly Pro Ala Lys
50 55 60

Ala Trp Ala His Ser Cys Thr Gly Ser Pro Arg Gly Arg Thr Gly Trp
65 70 75 80

Gly Ser Arg Ala Cys Glu Ala Leu Gly Lys Gly Met Gly Leu Trp Gly
85 90 95

Arg Gly Gly Met Gly Phe Arg Ser Ile Cys Thr Ile Arg Lys Val Leu
100 105 110

Arg Ser Phe Phe Leu Glu Gly Thr Leu Ser Ser Leu Ser Leu Phe Leu
115 120 125

Asp Leu Gly Leu Glu Leu Arg Met Gly Arg Cys Ala Gln Gly Gly Thr
130 135 140

His Gln Ser Thr Arg Glu Gly Gly Tyr Leu Gly Val Ser Gln Gly Leu
145 150 155 160

Cys Gln Cys Leu Gln Pro Thr Ser Arg Ser Leu Glu Phe Gly Glu Trp
165 170 175

Gly

```
             20                  25                  30

Tyr Glu Tyr Arg Ser Pro Val Gln Glu Asn Ser Ser Asp Leu Asn Lys
         35                  40                  45

Ser Ile Trp Asp Glu Phe Ile Ser Asp Glu Ala Asp Glu Lys Thr Tyr
     50                  55                  60

Asn Asp Ala Leu Phe Arg Tyr Asn Gly Thr Val Gly Leu Trp Arg Arg
 65                  70                  75                  80

Cys Ile Thr Ile Pro Lys Asn Met His Trp Tyr Ser Pro Pro Glu Arg
                 85                  90                  95

Xaa Glu Ser Phe Asp Val Val Thr Lys Cys Val Ser Ser His
            100                 105                 110



<210> 366
<211> 165
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (2)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (4)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (5)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (148)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 366
Arg Xaa Thr Xaa Xaa His Phe Ala Arg Thr Tyr Pro Gly Ile His Leu
 1                5                  10                  15

Arg Ile Gly Ser Asp Trp Lys Asn Ala Cys Ala Met Leu Lys Asp Gly
             20                  25                  30

Thr Ala Gly Ser His Phe Met Ala Ser Pro Gln Cys Val Gly Tyr Ser
         35                  40                  45

Arg Ser Thr Ala Ala Pro Leu Thr Met Thr Met Cys Leu Pro Asp Leu
     50                  55                  60

Lys Glu Ile Gln Arg Ala Val Lys Leu Trp Val Arg Ser Leu Asp Ala
 65                  70                  75                  80
```

```
<210> 363
<211> 51
<212> PRT
<213> Homo sapiens

<400> 363
Met Leu Gln Asp Leu Cys Leu Cys Leu Phe Ser Ser Phe Phe Leu Ser
 1               5                   10                  15

Leu Phe Val Cys Leu Lys Val Gly Gln Lys Ile Leu Leu Leu Thr Asp
            20                  25                  30

Phe Pro Trp Ser Ala Ala Val Lys Arg Ser Leu Ser Leu Leu Ser Phe
        35                  40                  45

Leu Met Glu
    50



<210> 364
<211> 53
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (41)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 364
Ser Cys Phe Leu Ala Leu Lys Ser Ile Leu Ala Val Cys Gly Gly Ser
 1               5                   10                  15

His Leu Pro Pro Ala Leu Trp Glu Ala Ser Gly Gly Gly Leu Val Pro
            20                  25                  30

Asn Ser Cys Ser Pro Gly Asp Pro Xaa Val Leu Glu Arg Pro Pro Pro
        35                  40                  45

Arg Trp Ser Ser Ser
    50



<210> 365
<211> 110
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (97)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 365
Met Asp Asn Arg Phe Ala Thr Ala Phe Val Ile Ala Cys Val Leu Ser
 1               5                   10                  15

Leu Ile Ser Thr Ile Tyr Met Ala Ala Ser Ile Gly Thr Asp Phe Trp
```

Met Gln Asn Arg Ser Pro Ala Phe Cys Phe Leu Leu Met Tyr Leu Leu
1 5 10 15

Cys Thr Cys Val Thr Arg Val Leu Leu Ser Ile Ile Phe Asn Leu Ile
20 25 30

Arg Ala Tyr Leu Trp Ser Trp His Asp Val Thr Pro Cys Val Arg Val
35 40 45

Gly Ile Thr Pro Val Tyr Leu Phe Leu Ser Ser Ala Ala His Asn Ala
50 55 60

Arg His Ile Val Gly Thr Leu
65 70

<210> 361
<211> 71
<212> PRT
<213> Homo sapiens

<400> 361
Met Gln Asn Arg Ser Pro Ala Phe Cys Phe Leu Leu Met Tyr Leu Leu
1 5 10 15

Cys Thr Cys Val Thr Arg Val Leu Leu Ser Ile Ile Phe Asn Leu Ile
20 25 30

Arg Ala Tyr Leu Trp Ser Trp His Asp Val Thr Pro Cys Val Arg Val
35 40 45

Gly Ile Thr Pro Val Tyr Leu Phe Leu Ser Ser Ala Ala His Asn Ala
50 55 60

Arg His Ile Val Gly Thr Leu
65 70

<210> 362
<211> 51
<212> PRT
<213> Homo sapiens

<400> 362
Met Leu Gln Asp Leu Cys Leu Cys Leu Phe Ser Ser Phe Phe Leu Ser
1 5 10 15

Leu Phe Val Cys Leu Lys Val Gly Gln Lys Ile Leu Leu Leu Thr Asp
20 25 30

Phe Pro Trp Ser Ala Ala Val Lys Arg Ser Leu Ser Leu Leu Ser Phe
35 40 45

Leu Met Glu
50

```
Val Pro Leu Leu Leu Leu Gly Cys Gly Ser Ala Leu His Pro Gly Ala
             20                  25                  30

Pro Arg Ser Ile Pro His Thr Met Pro Ser Thr Arg Glu Val Gly Gln
         35                  40                  45

Thr Arg Pro Gly Pro Cys Gln Pro Ser Val Pro Arg Phe Ser His Trp
     50                  55                  60

Leu His Arg Met Val Ala Phe Ser Leu Pro Xaa Ser Gln Ser Cys Ser
 65                  70                  75                  80

Glu Gly Ala Trp Arg Ser Thr Leu Ser His Gln Gly Gln Leu Glu Thr
                 85                  90                  95

Lys Ala Ile



<210> 358
<211> 67
<212> PRT
<213> Homo sapiens

<400> 358
Pro Ile Pro Trp Leu Cys Pro Pro Ser Pro Thr Leu Pro Leu Leu Ser
 1               5                   10                  15

Ile Phe Phe Leu Pro Thr His Pro Pro Pro Pro Ser Arg Arg Gly Gly
             20                  25                  30

Leu Gly Arg Pro Arg Pro Ser Leu Glu Lys Pro Ser Leu Ser Ser Ala
         35                  40                  45

Val Val Pro Pro Pro Asn Pro Ile Thr Ala Ala His Pro Ile Leu Thr
     50                  55                  60

Val Ile Leu
 65



<210> 359
<211> 4
<212> PRT
<213> Homo sapiens

<400> 359
Ala Pro Arg Gly
 1



<210> 360
<211> 71
<212> PRT
<213> Homo sapiens

<400> 360
```

```
Pro Arg Ser Ile Pro His Thr Met Pro Ser Thr Arg Glu Val Gly Gln
        35                  40                  45

Thr Arg Pro Gly Pro Cys Gln Pro Ser Val Pro Arg Phe Ser His Trp
    50                  55                  60

Leu His Arg Met Val Ala Phe Ser Leu Pro Thr Ser Gln Ser Cys Ser
65                  70                  75                  80

Glu Gly Ala Trp Arg Ser Thr Leu Ser His Gln Gly Gln Leu Glu Thr
                85                  90                  95

Lys Ala Ile



<210> 356
<211> 99
<212> PRT
<213> Homo sapiens

<400> 356
Met Gly Arg Val Ser Ile Gln Gln Leu Gly Val Leu Val Ala Leu Pro
 1               5                  10                  15

Val Pro Leu Leu Leu Leu Gly Cys Gly Ser Ala Leu His Pro Gly Ala
            20                  25                  30

Pro Arg Ser Ile Pro His Thr Met Pro Ser Thr Arg Glu Val Gly Gln
        35                  40                  45

Thr Arg Pro Gly Pro Cys Gln Pro Ser Val Pro Arg Phe Ser His Trp
    50                  55                  60

Leu His Arg Met Val Ala Phe Ser Leu Pro Thr Ser Gln Ser Cys Ser
65                  70                  75                  80

Glu Gly Ala Trp Arg Ser Thr Leu Ser His Gln Gly Gln Leu Glu Thr
                85                  90                  95

Lys Ala Ile



<210> 357
<211> 99
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (75)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 357
Met Gly Arg Val Ser Ile Gln Gln Leu Gly Val Leu Val Ala Leu Pro
 1               5                  10                  15
```

```
Leu Gln Lys His Thr Val Leu Ile Ile Ala His Arg Leu Ser Thr Val
    370                 375                 380

Glu His Ala His Leu Ile Val Val Leu Asp Lys Gly Arg Val Val Gln
385                 390                 395                 400

Gln Gly Thr His Gln Gln Leu Leu Ala Gln Gly Gly Leu Tyr Ala Lys
                405                 410                 415

Leu Val Gln Arg Gln Met Leu Gly Leu Gln Pro Ala Ala Asp Phe Thr
            420                 425                 430

Ala Gly His Asn Glu Pro Val Ala Asn Gly Ser His Lys Ala
        435                 440                 445


<210> 353
<211> 35
<212> PRT
<213> Homo sapiens

<400> 353
Lys Phe Lys Gln Val Ile Lys Ser Phe Tyr Lys Ile His Leu Ala Lys
  1               5                  10                  15

Glu Ile Leu Ser Met Asn Ile Lys Leu Arg Lys Val Leu Tyr Val Phe
             20                  25                  30

Leu Val Asn
         35


<210> 354
<211> 27
<212> PRT
<213> Homo sapiens

<400> 354
Met Ala Ile Phe Cys Phe Ser Leu Cys Ser Leu Gly Ser Ile Leu Gly
  1               5                  10                  15

Lys Gly Met Ser Thr Phe Gly Ser Ile Ser Val
             20                  25


<210> 355
<211> 99
<212> PRT
<213> Homo sapiens

<400> 355
Met Gly Arg Val Ser Ile Gln Gln Leu Gly Val Leu Val Ala Leu Pro
  1               5                  10                  15

Val Pro Leu Leu Leu Leu Gly Cys Gly Ser Ala Leu His Pro Gly Ala
             20                  25                  30
```

```
Glu Glu Thr Ile Ser Ala Met Lys Thr Val Arg Ser Phe Ala Asn Glu
     50                  55                  60

Glu Glu Glu Ala Glu Val Tyr Leu Arg Lys Leu Gln Gln Val Tyr Lys
 65                  70                  75                  80

Leu Asn Arg Lys Glu Ala Ala Ala Tyr Met Tyr Tyr Val Trp Gly Ser
                 85                  90                  95

Gly Leu Thr Leu Leu Val Val Gln Val Ser Ile Leu Tyr Tyr Gly Gly
            100                 105                 110

His Leu Val Ile Ser Gly Gln Met Thr Ser Gly Asn Leu Ile Ala Phe
        115                 120                 125

Ile Ile Tyr Glu Phe Val Leu Gly Asp Cys Met Glu Ser Val Gly Ser
    130                 135                 140

Val Tyr Ser Gly Leu Met Gln Gly Val Gly Ala Ala Glu Lys Val Phe
145                 150                 155                 160

Glu Phe Ile Asp Arg Gln Pro Thr Met Val His Asp Gly Ser Leu Ala
                165                 170                 175

Pro Asp His Leu Glu Gly Arg Val Asp Phe Glu Asn Val Thr Phe Thr
            180                 185                 190

Tyr Arg Thr Arg Pro His Thr Gln Val Leu Gln Asn Val Ser Phe Ser
        195                 200                 205

Leu Ser Pro Gly Lys Val Thr Ala Leu Val Gly Pro Ser Gly Ser Gly
    210                 215                 220

Lys Ser Ser Cys Val Asn Ile Leu Glu Asn Phe Tyr Pro Leu Glu Gly
225                 230                 235                 240

Gly Arg Val Leu Leu Asp Gly Lys Pro Ile Ser Ala Tyr Asp His Lys
                245                 250                 255

Tyr Leu His Arg Val Ile Ser Leu Val Ser Gln Glu Pro Val Leu Phe
            260                 265                 270

Ala Arg Ser Ile Thr Asp Asn Ile Ser Tyr Gly Leu Pro Thr Val Pro
        275                 280                 285

Phe Glu Met Val Val Glu Ala Ala Gln Lys Ala Asn Ala His Gly Phe
    290                 295                 300

Ile Met Glu Leu Gln Asp Gly Tyr Ser Thr Glu Thr Gly Glu Lys Gly
305                 310                 315                 320

Ala Gln Leu Ser Gly Gly Gln Lys Gln Arg Val Ala Met Ala Arg Ala
                325                 330                 335

Leu Val Arg Asn Pro Pro Val Leu Ile Leu Asp Glu Ala Thr Ser Ala
            340                 345                 350

Leu Asp Ala Glu Ser Glu Tyr Leu Ile Gln Gln Ala Ile His Gly Asn
        355                 360                 365
```

```
Leu Asn Arg Lys Glu Ala Ala Ala Tyr Met Tyr Tyr Val Trp Gly Ser
                 85                  90                  95

Gly Leu Thr Leu Leu Val Val Gln Val Ser Ile Leu Tyr Tyr Gly Gly
            100                 105                 110

His Leu Val Ile Ser Gly Gln Met Thr Ser Gly Asn Leu Ile Ala Phe
        115                 120                 125

Ile Ile Tyr Glu Phe Val Leu Gly Asp Cys Met Glu Asn Val Ser Phe
    130                 135                 140

Ser Leu Ser Pro Gly Lys Val Thr Ala Leu Val Gly Pro Ser Gly Ser
145                 150                 155                 160

Gly Lys Ser Ser Cys Val Asn Ile Leu Glu Asn Phe Tyr Pro Leu Glu
                165                 170                 175

Gly Gly Arg Val Leu Leu Asp Gly Lys Pro Ile Ser Ala Tyr Asp His
            180                 185                 190

Lys Tyr Leu His Arg Val Ile Ser Leu Val Ser Gln Glu Pro Val Leu
        195                 200                 205

Phe Ala Arg Ser Ile Thr Asp Asn Ile Ser Tyr Gly Leu Pro Thr Val
    210                 215                 220

Pro Phe Glu Met Val Val Glu Ala Ala Gln Lys Ala Asn Ala His Gly
225                 230                 235                 240

Phe Ile Met Glu Leu Gln Asp Gly Tyr Ser Thr Glu Thr Gly Glu Lys
                245                 250                 255

Gly Ala Gln Leu Ser Gly Gly Gln Lys Gln Arg Val Ala Trp Pro Gly
            260                 265                 270

Leu Trp Cys Gly Thr Pro Gln Ser Ser Ser Trp Met Lys Pro Pro Ala
        275                 280                 285

Leu Trp Met Pro Arg Ala Ser Ile
    290                 295


<210> 352
<211> 446
<212> PRT
<213> Homo sapiens

<400> 352
Met Phe Ser Leu Ser Trp Gln Leu Ser Leu Val Thr Phe Met Gly Phe
 1               5                  10                  15

Pro Ile Ile Met Met Val Ser Asn Ile Tyr Gly Lys Tyr Tyr Lys Arg
             20                  25                  30

Leu Ser Lys Glu Val Gln Asn Ala Leu Ala Arg Ala Ser Asn Thr Ala
         35                  40                  45
```

```
Met Lys Asn Lys Ile Leu Ile Phe Gly Leu Phe Glu Glu Thr Ala Leu
145                 150                 155                 160

Ala Ala Phe Leu Ser Tyr Cys Pro Gly Met Gly Val Ala Leu Arg Met
                165                 170                 175

Tyr Pro Leu Lys Pro Thr Trp Trp Phe Cys Ala Phe Pro Tyr Ser Leu
            180                 185                 190

Leu Ile Phe Val Tyr Asp Glu Val Arg Lys Leu Ile Ile Arg Arg Arg
        195                 200                 205

Pro Gly Gly Trp Val Glu Lys Glu Thr Tyr Tyr
    210                 215


<210> 350
<211> 73
<212> PRT
<213> Homo sapiens

<400> 350
Phe Ser Ser Ser Met Ser Leu Ser Phe Leu Pro Phe Leu Pro Phe Leu
1               5                   10                  15

Ser Pro Cys Ser Glu Thr Ala Ala Gly Ser Tyr Leu Ser Arg Pro Thr
            20                  25                  30

Pro Phe Pro Met Val Ala Val Leu Ser Ala Gly Ala Gly Ser Cys Arg
        35                  40                  45

Trp Arg Ile Arg Glu Lys Ser Thr Glu Gln Leu Pro Ala Glu Arg Ala
    50                  55                  60

Gly Pro Gly Glu Pro Ser Gly Gly Ser
65                  70


<210> 351
<211> 296
<212> PRT
<213> Homo sapiens

<400> 351
Met Phe Ser Leu Ser Trp Gln Leu Ser Leu Val Thr Phe Met Gly Phe
1               5                   10                  15

Pro Ile Ile Met Met Val Ser Asn Ile Tyr Gly Lys Tyr Tyr Lys Arg
            20                  25                  30

Leu Ser Lys Glu Val Gln Asn Ala Leu Ala Arg Ala Ser Asn Thr Ala
        35                  40                  45

Glu Glu Thr Ile Ser Ala Met Lys Thr Val Arg Ser Phe Ala Asn Glu
    50                  55                  60

Glu Glu Glu Ala Glu Val Tyr Leu Arg Lys Leu Gln Gln Val Tyr Lys
65                  70                  75                  80
```

```
<222> (87)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 348
Met Phe Ser Leu Ser Trp Gln Leu Ser Leu Val Thr Phe Met Gly Phe
1               5                   10                  15

Pro Ile Xaa Met Xaa Val Ser Asn Ile Tyr Gly Lys Xaa Tyr Lys Arg
            20                  25                  30

Leu Ser Lys Glu Val Gln Asn Ala Leu Ala Arg Ala Ser Asn Thr Ala
        35                  40                  45

Glu Glu Thr Ile Ser Ala Met Lys Thr Val Arg Ser Phe Ala Asn Glu
    50                  55                  60

Glu Glu Glu Ala Glu Val Tyr Leu Arg Lys Leu Gln Gln Val Tyr Lys
65                  70                  75                  80

Leu Asn Arg Lys Glu Ala Xaa Ala Tyr Met Tyr Tyr Val Trp Gly Ser
                85                  90                  95

Gly Leu Thr Leu Leu Val Val Gln Val Ser Ile Leu
            100                 105


<210> 349
<211> 219
<212> PRT
<213> Homo sapiens

<400> 349
Val Thr Ile Leu Cys Ile Asp Leu Gly Thr Asp Met Val Pro Ala Ile
1               5                   10                  15

Ser Leu Ala Tyr Glu Gln Ala Glu Ser Asp Ile Met Lys Arg Gln Pro
            20                  25                  30

Arg Asn Pro Lys Thr Asp Lys Leu Val Asn Glu Arg Leu Ile Ser Met
        35                  40                  45

Ala Tyr Gly Gln Ile Gly Met Ile Gln Ala Leu Gly Gly Phe Phe Thr
    50                  55                  60

Tyr Phe Val Ile Leu Ala Glu Asn Gly Phe Leu Pro Ile His Leu Leu
65                  70                  75                  80

Gly Leu Arg Val Asp Trp Asp Asp Arg Trp Ile Asn Asp Val Glu Asp
                85                  90                  95

Ser Tyr Gly Gln Gln Trp Thr Tyr Glu Gln Arg Lys Ile Val Glu Phe
            100                 105                 110

Thr Cys His Thr Ala Phe Phe Val Ser Ile Val Val Val Gln Trp Ala
        115                 120                 125

Asp Leu Val Ile Cys Lys Thr Arg Arg Asn Ser Val Phe Gln Gln Gly
    130                 135                 140
```

```
Met Lys Ala Leu Gly Ala Val Leu Leu Ala Leu Leu Leu Cys Gly Arg
  1               5                  10                  15

Pro Gly Arg Gly Gln Thr Gln Gln Glu Glu Glu Glu Glu Asp Glu Asp
             20                  25                  30

His Gly Pro Asp Asp Tyr Asp Glu Glu Asp Glu Asp Glu Val Glu Glu
         35                  40                  45

Glu Glu Thr Asn Arg Leu Pro Gly Gly Arg Ser Arg Val Leu Leu Arg
     50                  55                  60

Cys Tyr Thr Cys Lys Ser Leu Pro Arg Asp Glu Arg Cys Asn Leu Thr
 65                  70                  75                  80

Gln Asn Cys Ser His Gly Gln Thr Cys Thr Thr Leu Ile Ala His Gly
                 85                  90                  95

Asn Thr Glu Ser Gly Leu Leu Thr Thr His Ser Thr Trp Cys Thr Asp
            100                 105                 110

Ser Cys Gln Pro Ile Thr Lys Thr Val Glu Gly Thr Gln Val Thr Met
        115                 120                 125

Thr Cys Cys Gln Ser Ser Leu Cys Asn Val Pro Pro Trp Gln Ser Ser
    130                 135                 140

Arg Val Gln Asp Pro Thr Gly Lys Gly Ala Gly Gly Pro Arg Gly Ser
145                 150                 155                 160

Ser Glu Thr Val Gly Ala Ala Leu Leu Leu Asn Leu Leu Ala Gly Leu
                165                 170                 175

Gly Ala Met Gly Ala Arg Arg Pro
            180


<210> 348
<211> 108
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (19)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (21)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (29)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
```

```
Val Asn Val Val Leu Glu Val Lys Tyr Ser Leu Thr Tyr Thr Asp Ala
                325                 330                 335

Gly Glu Val Thr Lys Ala Asp Leu Ser Phe Val Leu Gly Thr Val Ser
            340                 345                 350

Ser Val Val Val Pro Leu Gln Gln Lys Phe Glu Ile His Phe Leu Gln
        355                 360                 365

Glu Asn Thr Gln Pro Val Pro Leu Ser Gly Asn Pro Gly Tyr Val Val
    370                 375                 380

Gly Leu Pro Leu Ala Ala Gly Phe Gln Pro His Lys Gly Ser Gly Ile
385                 390                 395                 400

Ile Gln Thr Thr Asn Arg Tyr Gly Gln Leu Thr Ile Leu His Ser Thr
                405                 410                 415

Thr Glu Gln Asp Cys Leu Ala Leu Glu Gly Val Arg Thr Pro Val Leu
            420                 425                 430

Phe Gly Tyr Thr Met Gln Ser Gly Cys Lys Leu Arg Leu Thr Gly Ala
        435                 440                 445

Leu Pro Cys Gln Leu Val Ala Gln Lys Val Lys Ser Leu Leu Trp Gly
    450                 455                 460

Gln Gly Phe Pro Asp Tyr Val Ala Pro Phe Gly Asn Ser Gln Ala Gln
465                 470                 475                 480

Asp Met Leu Asp Trp Val Pro Ile His Phe Ile Thr Gln Ser Phe Asn
                485                 490                 495

Arg Lys Asp Ser Cys Gln Leu Pro Gly Ala Leu Val Ile Glu Val Lys
            500                 505                 510

Trp Thr Lys Tyr Gly Ser Leu Leu Asn Pro Gln Ala Lys Ile Val Asn
        515                 520                 525

Val Thr Ala Asn Leu Ile Ser Ser Ser Phe Pro Glu Ala Asn Ser Gly
    530                 535                 540

Asn Glu Arg Thr Ile Leu Ile Ser Thr Ala Val Thr Phe Val Asp Val
545                 550                 555                 560

Ser Ala Pro Ala Glu Ala Gly Phe Arg Ala Pro Pro Ala Ile Asn Ala
                565                 570                 575

Arg Leu Pro Phe Asn Phe Phe Phe Pro Phe Val
            580                 585


<210> 347
<211> 184
<212> PRT
<213> Homo sapiens

<400> 347
```

```
<400> 346
Met Arg Pro Arg Gly Leu Pro Pro Leu Leu Val Val Leu Leu Gly Cys
1               5                   10                  15

Trp Ala Ser Val Ser Ala Gln Thr Asp Ala Thr Pro Ala Val Thr Thr
            20                  25                  30

Glu Gly Leu Asn Ser Thr Glu Ala Ala Leu Ala Thr Phe Gly Thr Phe
        35                  40                  45

Pro Ser Thr Arg Pro Pro Gly Thr Pro Arg Ala Pro Gly Pro Ser Ser
    50                  55                  60

Gly Pro Arg Pro Thr Pro Val Thr Asp Val Ala Val Leu Cys Val Cys
65                  70                  75                  80

Asp Leu Ser Pro Ala Gln Cys Asp Ile Asn Cys Cys Cys Asp Pro Asp
                85                  90                  95

Cys Ser Ser Val Asp Phe Ser Val Phe Ser Ala Cys Ser Val Pro Val
            100                 105                 110

Val Thr Gly Asp Ser Gln Phe Cys Ser Gln Lys Ala Val Ile Tyr Ser
        115                 120                 125

Leu Asn Phe Thr Ala Asn Pro Pro Gln Arg Val Phe Glu Leu Val Asp
    130                 135                 140

Gln Ile Asn Pro Ser Ile Phe Cys Ile His Ile Thr Asn Tyr Lys Pro
145                 150                 155                 160

Ala Leu Ser Phe Ile Asn Pro Glu Val Pro Asp Glu Asn Asn Phe Asp
                165                 170                 175

Thr Leu Met Lys Thr Ser Asp Gly Phe Thr Leu Asn Ala Glu Ser Tyr
            180                 185                 190

Val Ser Phe Thr Thr Lys Leu Asp Ile Pro Thr Ala Ala Lys Tyr Glu
        195                 200                 205

Tyr Gly Val Pro Leu Gln Thr Ser Asp Ser Phe Leu Arg Phe Pro Ser
    210                 215                 220

Ser Leu Thr Ser Ser Leu Cys Thr Asp Asn Asn Pro Ala Ala Phe Leu
225                 230                 235                 240

Val Asn Gln Ala Val Lys Cys Thr Arg Lys Ile Asn Leu Glu Gln Cys
                245                 250                 255

Glu Glu Ile Glu Ala Leu Ser Met Ala Phe Tyr Ser Ser Pro Glu Ile
            260                 265                 270

Leu Arg Val Pro Asp Ser Arg Lys Lys Val Pro Ile Thr Val Gln Ser
        275                 280                 285

Ile Val Ile Gln Ser Leu Asn Lys Thr Leu Thr Arg Arg Glu Asp Thr
    290                 295                 300

Asp Val Leu Gln Pro Thr Leu Val Asn Ala Gly His Phe Ser Leu Cys
305                 310                 315                 320
```

```
<221> SITE
<222> (24)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 345
Thr His Leu Phe Xaa Cys Asn Ser Tyr Tyr Lys Pro Leu Thr Xaa His
1               5                   10                  15

Xaa Pro Phe Ile Ile Gln Lys Xaa Pro Asp Glu Asn Asn Phe Asp Thr
            20                  25                  30

Leu Met Lys Thr Ser Asp Gly Phe Thr Leu Asn Ala Glu Ser Tyr Val
        35                  40                  45

Ser Phe Thr Thr Lys Leu Asp Ile Pro Thr Ala Ala Lys Tyr Glu Tyr
    50                  55                  60

Gly Val Pro Leu Gln Thr Ser Asp Ser Phe Leu Arg Phe Pro Ser Ser
65                  70                  75                  80

Leu Thr Ser Ser Leu Cys Thr Asp Asn Asn Pro Ala Ala Phe Leu Val
                85                  90                  95

Asn Gln Ala Val Lys Cys Thr Arg Lys Ile Asn Leu Glu Gln Cys Glu
            100                 105                 110

Glu Ile Glu Ala Leu Ser Met Ala Phe Tyr Ser Ser Pro Glu Ile Leu
        115                 120                 125

Arg Val Pro Asp Ser Arg Lys Lys Val Pro Ile Thr Val Gln Ser Ile
    130                 135                 140

Val Ile Gln Ser Leu Asn Lys Thr Leu Thr Arg Arg Glu Asp Thr Asp
145                 150                 155                 160

Val Leu Gln Pro Thr Leu Val Asn Ala Gly His Phe Ser Leu Cys Val
                165                 170                 175

Asn Val Val Leu Glu Asp Ser Cys Gln Leu Pro Gly Ala Leu Val Ile
            180                 185                 190

Glu Val Lys Trp Thr Lys Tyr Gly Ser Leu Leu Asn Pro Gln Ala Lys
        195                 200                 205

Ile Val Asn Val Thr Ala Asn Leu Ile Ser Ser Ser Phe Pro Glu Asn
    210                 215                 220

Ala Gln Met His Gln Phe Leu Asn Ile His Val Lys Phe Glu Asn Cys
225                 230                 235                 240

Thr Phe Gly Glu Ile Lys Phe Tyr Ile Gln Leu Ala Lys Lys
                245                 250


<210> 346
<211> 587
<212> PRT
<213> Homo sapiens
```

```
Lys Phe Glu Ile His Phe Leu Gln Glu Asn Thr Gln Pro Val Pro Leu
            100                 105                 110

Ser Gly Asn Pro Gly Tyr Val Val Gly Leu Pro Leu Ala Ala Gly Phe
        115                 120                 125

Gln Pro His Lys Gly Gly Ala Leu Pro Cys Gln Leu Val Ala Gln Lys
    130                 135                 140

Val Lys Ser Leu Leu Trp Gly Gln Gly Phe Pro Asp Tyr Val Ala Pro
145                 150                 155                 160

Phe Gly Asn Ser Gln Ala Gln Asp Met Leu Asp Trp Val Pro Ile His
                165                 170                 175

Phe Ile Thr Gln Ser Phe Asn Arg Lys Asp Ser Cys Gln Leu Pro Gly
            180                 185                 190

Ala Leu Val Ile Glu Val Lys Trp Thr Lys Tyr Gly Ser Leu Leu Asn
        195                 200                 205

Pro Gln Ala Lys Ile Val Asn Val Thr Ala Asn Leu Ile Ser Ser Ser
    210                 215                 220

Phe Pro Glu Ala Asn Ser Gly Asn Glu Arg Thr Ile Leu Ile Ser Thr
225                 230                 235                 240

Ala Val Thr Phe Val Asp Val Ser Ala Pro Ala Glu Ala Gly Phe Arg
                245                 250                 255

Ala Pro Pro Ala Ile Asn Ala Arg Leu Pro Phe Asn Phe Phe Phe Pro
            260                 265                 270

Phe Val



<210> 345
<211> 254
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (5)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (15)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (17)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
```

```
Trp Ala Ser Val Ser Ala Gln Thr Asp Ala Thr Pro Ala Val Thr Thr
            20                  25                  30

Glu Gly Leu Asn Ser Thr Glu Ala Ala Leu Ala Thr Phe Gly Thr Phe
        35                  40                  45

Pro Ser Thr Arg Pro Pro Gly Thr Pro Arg Ala Pro Gly Pro Ser Ser
    50                  55                  60

Gly Pro Arg Pro Thr Pro Val Thr Asp Val Ala Val Leu Cys Val Cys
65                  70                  75                  80

Asp Leu Ser Pro Ala Gln Cys Asp Ile Asn Cys Cys Cys Asp Pro Asp
                85                  90                  95

Cys Ser Ser Val Asp Phe Ser Val Phe Ser Ala Cys Ser Val Pro Val
            100                 105                 110

Val Thr Gly Asp Ser Gln Phe Cys Ser Gln Lys Ala Val Ile Tyr Ser
        115                 120                 125

Leu Asn Phe Thr Ala Asn Pro Pro Gln Xaa Val Phe Glu Leu Val Asp
    130                 135                 140

Gln Ile Asn Pro Ser Ile Phe Xaa Ile His Ile Thr Asn Cys Arg Cys
145                 150                 155                 160

Ser Val
```

<210> 344
<211> 274
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (56)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 344

```
Pro Phe Tyr Ser Ser Pro Glu Ile Leu Arg Val Pro Asp Ser Arg Lys
 1               5                  10                  15

Lys Val Pro Ile Thr Val Gln Ser Ile Val Ile Gln Ser Leu Asn Lys
            20                  25                  30

Thr Leu Thr Arg Arg Glu Asp Thr Asp Val Leu Gln Pro Thr Leu Val
        35                  40                  45

Asn Ala Gly His Phe Ser Leu Xaa Val Asn Val Val Leu Glu Val Lys
    50                  55                  60

Tyr Ser Leu Thr Tyr Thr Asp Ala Gly Glu Val Thr Lys Ala Asp Leu
65                  70                  75                  80

Ser Phe Val Leu Gly Thr Val Ser Ser Val Val Val Pro Leu Gln Gln
                85                  90                  95
```

```
<210> 342
<211> 88
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (1)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (2)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (19)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 342
Xaa Xaa Glu Asp Arg Leu Pro Gly Pro Ile Leu Pro Arg Gly Phe Gln
 1               5                  10                  15

Leu Trp Xaa Ser Leu Gly Gly Glu Phe Pro Arg Leu Gln Ile Arg Pro
            20                  25                  30

Met Cys His Ala Pro Asn Cys Leu Ser Val Arg Pro Ser Val Arg Pro
        35                  40                  45

Ser Val His Pro Ser Ile His Pro Ser Ile Pro Val Thr Ile Ser Thr
    50                  55                  60

Pro Met Cys Gln Met Pro Tyr Ile Ser Asn Leu Met Gln Val Pro Pro
65                  70                  75                  80

Pro Pro Cys Pro Leu Leu Ile Gln
                85


<210> 343
<211> 162
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (138)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (152)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 343
Met Arg Pro Arg Gly Leu Pro Pro Leu Leu Val Val Leu Leu Gly Cys
 1               5                  10                  15
```

```
                245                 250                 255

Gly Xaa Trp Leu Glu Glu Ala Pro Phe
            260                 265



<210> 341
<211> 229
<212> PRT
<213> Homo sapiens

<400> 341
Met Asp Leu Leu Gln Phe Leu Ala Phe Leu Phe Val Leu Leu Leu Ser
1               5                   10                  15

Gly Met Gly Ala Thr Gly Thr Leu Arg Thr Ser Leu Asp Pro Ser Leu
            20                  25                  30

Glu Ile Tyr Lys Lys Met Phe Glu Val Lys Arg Arg Glu Gln Leu Leu
        35                  40                  45

Ala Leu Lys Asn Leu Ala Gln Leu Asn Asp Ile His Gln Gln Tyr Lys
    50                  55                  60

Ile Leu Asp Val Met Leu Lys Gly Leu Phe Lys Val Leu Glu Asp Ser
65                  70                  75                  80

Arg Thr Val Leu Thr Ala Ala Asp Val Leu Pro Asp Gly Pro Cys Pro
                85                  90                  95

Gln Asp Glu Lys Leu Lys Asp Ala Phe Ser His Val Val Glu Asn Thr
            100                 105                 110

Ala Phe Phe Gly Asp Val Val Leu Arg Phe Pro Arg Ile Val His Tyr
        115                 120                 125

Tyr Phe Asp His Asn Ser Asn Trp Asn Leu Leu Ile Arg Trp Gly Ile
    130                 135                 140

Ser Phe Cys Asn Gln Thr Gly Val Phe Asn Gln Gly Pro His Ser Pro
145                 150                 155                 160

Ile Leu Ser Leu Met Ala Gln Glu Leu Gly Ile Ser Glu Lys Asp Ser
                165                 170                 175

Asn Phe Gln Asn Pro Phe Lys Ile Asp Arg Thr Glu Phe Ile Pro Ser
            180                 185                 190

Thr Asp Pro Phe Gln Lys Ala Leu Arg Glu Glu Glu Lys Arg Arg Lys
        195                 200                 205

Lys Glu Glu Lys Arg Lys Glu Ile Arg Lys Gly Pro Arg Ile Ser Arg
    210                 215                 220

Ser Gln Ser Glu Leu
225
```

```
<222> (222)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (238)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (258)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 340
Met Asp Leu Leu Gln Phe Leu Ala Phe Leu Phe Val Leu Leu Leu Ser
 1               5                  10                  15

Gly Met Gly Ala Thr Gly Thr Leu Arg Thr Ser Leu Asp Pro Ser Leu
            20                  25                  30

Glu Ile Tyr Lys Lys Met Phe Glu Val Lys Arg Arg Glu Gln Leu Leu
        35                  40                  45

Ala Leu Lys Asn Leu Ala Gln Leu Asn Asp Ile His Gln Gln Tyr Lys
    50                  55                  60

Ile Leu Asp Val Met Leu Lys Gly Leu Phe Lys Val Leu Glu Asp Ser
65                  70                  75                  80

Arg Thr Val Leu Thr Ala Ala Asp Val Leu Pro Asp Gly Pro Phe Pro
                85                  90                  95

Gln Asp Glu Lys Leu Lys Asp Ala Phe Ser His Val Val Glu Asn Xaa
            100                 105                 110

Xaa Phe Phe Gly Asp Val Val Leu Arg Phe Pro Lys Ile Val His Tyr
        115                 120                 125

Tyr Phe Asp His Asn Ser Asn Trp Asn Leu Leu Ile Arg Trp Gly Ile
    130                 135                 140

Ser Phe Cys Asn Gln Thr Gly Val Phe Asn Gln Gly Pro His Ser Pro
145                 150                 155                 160

Ile Leu Ser Leu Met Ala Gln Glu Leu Gly Ile Ser Glu Lys Asp Ser
                165                 170                 175

Asn Phe Gln Asn Pro Phe Lys Ile Asp Arg Thr Glu Phe Ile Pro Ser
            180                 185                 190

Xaa Asp Pro Phe Gln Lys Ala Leu Arg Glu Glu Glu Lys Arg Arg Lys
        195                 200                 205

Lys Glu Glu Lys Arg Lys Glu Ile Arg Lys Gly Pro Lys Xaa Leu Pro
    210                 215                 220

Asp Ser His Leu Glu Leu Leu Gly Pro Trp Ser Ser Phe Xaa Val Gln
225                 230                 235                 240

Gly Ala Thr Arg Arg Gln Val Arg Glu Gly Arg Arg Gly Trp Ser Phe
```

<400> 338
Met Lys Ile Val Thr Thr Leu Tyr Cys Leu Phe Val Phe Leu Leu Asn
1 5 10 15

Cys Phe Gly Val Gly Gly Ser Cys Ile Phe Leu Ser Asn Arg Thr Pro
20 25 30

Gly Phe Ser Trp Ala His Asp Cys Pro Gln
35 40

<210> 339
<211> 82
<212> PRT
<213> Homo sapiens

<400> 339
Leu Leu Ser Asp Val Cys Pro Ser Leu Thr Val Pro Cys Ser Ser His
1 5 10 15

Val Phe Thr Asp Cys Leu Leu Tyr Met Gln Ser Gln Arg Val Gly Pro
20 25 30

Gly Leu Glu Leu Ser Pro His Leu Pro Leu Leu Ala Pro Pro Ser Ser
35 40 45

Trp Ala Leu Ser Ser Asn Thr Val Ile Leu Ser Pro Thr Trp Leu Ile
50 55 60

Leu Ser Phe Leu Pro Ser Asn Gly His Leu Gln Lys Lys Lys Lys Lys
65 70 75 80

Thr Arg

<210> 340
<211> 265
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (112)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (113)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (193)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE

```
Pro Leu Lys His Pro Leu Pro Ala Ala His Leu Gln His Ser Gln Arg
                165                 170                 175

Ala Pro Trp Pro Val Ser Thr Gly Leu Ser Leu Leu Gly Gly Ala Gly
            180                 185                 190

Ala Glu Gln Xaa Pro Gly Leu Gly Val Pro Ala Pro Arg Ser Thr Pro
        195                 200                 205

Ser Pro Thr Ala Ser Leu Phe Asn Leu Arg Gln Ala Val Xaa Leu Leu
    210                 215                 220

Ser Leu Thr Phe Pro Leu Cys Lys Met Arg Glu Gly Thr Ala Pro Ser
225                 230                 235                 240

Lys Pro Ser Phe Ser Leu Lys Pro Leu
                245


<210> 336
<211> 42
<212> PRT
<213> Homo sapiens

<400> 336
Met Lys Ile Val Thr Thr Leu Tyr Cys Leu Phe Val Phe Leu Leu Asn
 1               5                   10                  15

Cys Phe Gly Val Gly Gly Ser Cys Ile Phe Leu Ser Asn Arg Thr Pro
            20                  25                  30

Gly Phe Ser Trp Ala His Asp Cys Pro Gln
        35                  40


<210> 337
<211> 42
<212> PRT
<213> Homo sapiens

<400> 337
Met Lys Ile Val Thr Thr Leu Tyr Cys Leu Phe Val Phe Leu Leu Asn
 1               5                   10                  15

Cys Phe Gly Val Gly Gly Ser Cys Ile Phe Leu Ser Asn Arg Thr Pro
            20                  25                  30

Gly Phe Ser Trp Ala His Asp Cys Pro Gln
        35                  40


<210> 338
<211> 42
<212> PRT
<213> Homo sapiens
```

```
Arg Met His Gly Ser Trp Ser Gly Arg Ser Leu Gly
        35                  40



<210> 335
<211> 249
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (147)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (150)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (196)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (222)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 335
Met Val Cys Val Phe Met Cys Ile Val Gly Val Cys Val Ala Cys Cys
1               5                   10                  15

Ala Cys Val Tyr Cys Gly Cys Leu Leu Ser Arg Ala Val Glu Arg Thr
            20                  25                  30

Ser Gly Lys Gln Pro Gln His Gln Gly Gln Ala Arg Ser Ala Glu Cys
        35                  40                  45

Met Glu Ala Gly Gln Val Gly Ala Trp Asp Glu Gly Ser Thr Glu Met
    50                  55                  60

Gln Gly Cys Gln Gly Pro Trp Asn Gln Glu Pro Met Ile Lys Ala Thr
65                  70                  75                  80

Val His Thr Ala Leu Glu Ala Lys Asp Ile Phe Ile Ser Gln Gly Leu
                85                  90                  95

Lys Ser Met Gly Gln Gly Trp Ala Pro Gly Gln Asp Trp Gly Tyr Arg
            100                 105                 110

Val Asp Gln Ser Pro Ser Leu Pro Pro Gly Ala Tyr Pro His Pro Phe
        115                 120                 125

Thr Ser Gln Val Ser Pro Pro Gln Pro Leu Gly Glu Leu Leu Leu Ile
    130                 135                 140

Pro Gln Xaa Val Ala Xaa Val Thr Leu Leu Pro Glu Ala Ser Pro His
145                 150                 155                 160
```

35 40 45

Ala Ser Gly Val Ile Lys Ala Pro Ala Cys His Pro Thr Val Asn Thr
50 55 60

Asn Pro His Lys Glu Asn Glu His Ala Phe Leu Phe Ala Gly Cys Cys
65 70 75 80

Thr His Ser Leu Asn Arg Val Gly Thr Trp Val Pro Pro Leu Phe Lys
85 90 95

Val Phe Arg Phe Leu Leu Arg Gly Thr Ser Ala Ile Ala Thr Phe Ser
100 105 110

Gly His Phe Phe Ser Asp Glu Ala Phe Tyr Pro Gly Glu Pro Gly Arg
115 120 125

Leu Gln Gly Asn Gly Val Pro Trp Gln Leu Thr Val Thr Gly Gln Gly
130 135 140

Phe Asp Tyr Asp Lys Glu Asp Lys Arg Arg Glu Ala Pro His Gly Leu
145 150 155 160

Trp Leu Gln His Tyr Arg Ala Ala Arg Asp Pro Arg Ala Trp Val Ser
165 170 175

Trp Trp Ser Thr Phe Cys Asp Pro Gly Glu Glu Pro
180 185

<210> 333
<211> 44
<212> PRT
<213> Homo sapiens

<400> 333
Met Leu Cys Val Cys Val Leu Trp Met Phe Thr Val Pro Gly Ser Arg
1 5 10 15

Lys Asp Val Gly Glu Ala Ala Pro Ala Ser Gly Thr Gly Gln Glu Cys
20 25 30

Arg Met His Gly Ser Trp Ser Gly Arg Ser Leu Gly
35 40

<210> 334
<211> 44
<212> PRT
<213> Homo sapiens

<400> 334
Met Leu Cys Val Cys Val Leu Trp Met Phe Thr Val Pro Gly Ser Arg
1 5 10 15

Lys Asp Val Gly Glu Ala Ala Pro Ala Ser Gly Thr Gly Gln Glu Cys
20 25 30

```
<210> 331
<211> 188
<212> PRT
<213> Homo sapiens

<400> 331
Met Glu Pro Ser Leu Val His Ile Leu Val Trp Val Ser Val Pro Pro
 1               5                   10                  15

Leu Phe Leu Cys Leu Thr His Ser Arg Ser Ile Asn His Asn Gln Asp
             20                  25                  30

Gly Leu Asn Leu Thr Pro Leu Leu Gln Met Pro His Gln Leu Thr Asp
         35                  40                  45

Ala Ser Gly Val Ile Lys Ala Pro Ala Cys His Pro Thr Val Asn Thr
     50                  55                  60

Asn Pro His Lys Glu Asn Glu His Ala Phe Leu Phe Ala Gly Cys Cys
 65                  70                  75                  80

Thr His Ser Leu Asn Arg Val Gly Thr Trp Val Pro Pro Leu Phe Lys
                 85                  90                  95

Val Phe Arg Phe Leu Leu Arg Gly Thr Ser Ala Ile Ala Thr Phe Ser
            100                 105                 110

Gly His Phe Phe Ser Asp Glu Ala Phe Tyr Pro Gly Glu Pro Gly Arg
        115                 120                 125

Leu Gln Gly Asn Gly Val Pro Trp Gln Leu Thr Val Thr Gly Gln Gly
    130                 135                 140

Phe Asp Tyr Asp Lys Glu Asp Lys Arg Arg Glu Ala Pro His Gly Leu
145                 150                 155                 160

Trp Leu Gln His Tyr Arg Ala Ala Arg Asp Pro Arg Ala Trp Val Ser
                165                 170                 175

Trp Trp Ser Thr Phe Cys Asp Pro Gly Glu Glu Pro
            180                 185


<210> 332
<211> 188
<212> PRT
<213> Homo sapiens

<400> 332
Met Glu Pro Ser Leu Val His Ile Leu Val Trp Val Ser Val Pro Pro
 1               5                   10                  15

Leu Phe Leu Cys Leu Thr His Ser Arg Ser Ile Asn His Asn Gln Asp
             20                  25                  30

Gly Leu Asn Leu Thr Pro Leu Leu Gln Met Pro His Gln Leu Thr Asp
```

```
 1               5                   10                  15

Leu Gly Lys Ile Asn Tyr Thr Lys Tyr His Ile Ile Pro Ser Tyr Lys
             20                  25                  30

Leu Leu Pro Glu Asn Lys Ser Cys Val
         35                  40



<210> 328
<211> 58
<212> PRT
<213> Homo sapiens

<400> 328
Met Gln Val Phe Ser Ala Leu Leu Tyr Ser Leu Met His Phe Tyr Leu
 1               5                   10                  15

Pro Ser Phe Thr Leu Glu Met Tyr Leu Asn Thr Leu Leu Ser His Asp
             20                  25                  30

Leu Leu Ser Phe Phe His Cys Ser Gly Leu Val Phe Phe Val Tyr Phe
         35                  40                  45

Lys Ser Val Thr Gly Leu Phe Ser Gly Val
     50                  55



<210> 329
<211> 14
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (7)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 329
Met Met Pro Ala Tyr Pro Xaa Leu Leu Ala Trp Ile Leu Phe
 1               5                   10



<210> 330
<211> 32
<212> PRT
<213> Homo sapiens

<400> 330
Ala Trp Ser His Leu Ser Ile Leu Leu Asn Tyr Lys Leu Gln Arg Gln
 1               5                   10                  15

Glu Trp His Leu Phe Thr Tyr Phe Glu Phe Val Cys Asn Cys Leu Asp
             20                  25                  30
```

His Phe Leu Trp Leu Arg Ser Phe Gln Val
50 55

<210> 324
<211> 58
<212> PRT
<213> Homo sapiens

<400> 324
Met Gln Val Phe Ser Ala Leu Leu Tyr Ser Leu Met His Phe Tyr Leu
1 5 10 15

Pro Ser Phe Thr Leu Glu Met Tyr Leu Asn Thr Leu Leu Ser His Asp
20 25 30

Leu Leu Ser Phe Phe His Cys Ser Gly Leu Val Phe Phe Val Tyr Phe
35 40 45

Lys Ser Val Thr Gly Leu Phe Ser Gly Val
50 55

<210> 325
<211> 1
<212> PRT
<213> Homo sapiens

<400> 325
Ile
1

<210> 326
<211> 7
<212> PRT
<213> Homo sapiens

<400> 326
Ile Phe Thr Cys Val Leu Tyr
1 5

<210> 327
<211> 41
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (16)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 327
Gln Thr Val Ser Ala Phe Leu Pro Pro Leu Phe Tyr Val Thr Phe Xaa

```
Pro Ser Lys Ala Thr Ser Leu Glu Ser Phe Thr Asn Ala Pro Pro Thr
        435                 440                 445

Thr Ile Ser Glu Pro Ser Thr Arg Ala Ala Gly Pro Gly Arg Phe Arg
    450                 455                 460

Asp Asn Arg Met Asp Arg Arg Glu His Gly His Arg Asp Pro Asn Val
465                 470                 475                 480

Val Pro Gly Pro Pro Lys Pro Ala Lys Glu Lys Pro Pro Lys Lys Lys
                485                 490                 495

Ala Gln Asp Lys Ile Leu Ser Asn Glu Tyr Glu Glu Val
            500                 505



<210> 322
<211> 68
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (5)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 322
Pro Pro His Leu Xaa Ser Phe Glu Phe Leu Lys Asn Val Gln Leu Arg
 1               5                  10                  15

Pro Asp Thr Val Ala His Thr Cys Asp Pro Gly Thr Leu Gly Gly Arg
            20                  25                  30

Gly Trp Trp Ile Thr Gly Ser Gly Asp Arg Asp Ile Leu Ala Asn Thr
        35                  40                  45

Val Lys Arg Arg Leu Tyr Arg Lys Cys Arg Arg Leu Ala Gly His Gly
    50                  55                  60

Gly Gly Arg Leu
 65



<210> 323
<211> 58
<212> PRT
<213> Homo sapiens

<400> 323
Met Pro Asn Gln Phe Trp Lys Leu His Ile Leu Leu Phe Leu Leu Phe
 1               5                  10                  15

Phe Leu Phe Pro Leu Val Gln Leu Cys Ile Phe Ile Leu Ile Ser Asn
            20                  25                  30

Lys Glu Lys Lys Asn Val Cys Thr Leu Arg Lys Thr Tyr Ile Val Arg
        35                  40                  45
```

```
Ser Pro Arg Glu Met Ile Arg Asp Glu Gly Ser Ser Ala Arg Ser Arg
        115                 120                 125

Met Leu Arg Phe Pro Ser Gly Ser Ser Ser Pro Asn Ile Leu Ala Ser
    130                 135                 140

Phe Ala Gly Lys Asn Arg Val Trp Val Ile Ser Ala Pro His Ala Ser
145                 150                 155                 160

Glu Gly Tyr Tyr Arg Leu Met Met Ser Leu Leu Lys Asp Asp Val Tyr
                165                 170                 175

Cys Glu Leu Ala Glu Arg His Ile Gln Gln Ile Val Leu Phe His Gln
            180                 185                 190

Ala Gly Glu Glu Gly Gly Lys Val Arg Arg Ile Thr Ser Glu Gly Gln
        195                 200                 205

Ile Leu Glu Gln Pro Leu Asp Pro Ser Leu Ile Pro Lys Leu Met Ser
    210                 215                 220

Phe Leu Lys Leu Glu Lys Gly Lys Phe Gly Met Val Leu Leu Lys Lys
225                 230                 235                 240

Thr Leu Gln Val Glu Glu Arg Tyr Pro Tyr Pro Val Arg Leu Glu Ala
                245                 250                 255

Met Tyr Glu Val Ile Asp Gln Gly Pro Ile Arg Arg Ile Glu Lys Ile
            260                 265                 270

Arg Gln Lys Gly Phe Val Gln Lys Cys Lys Ala Ser Gly Val Glu Gly
        275                 280                 285

Gln Val Val Ala Glu Gly Asn Asp Gly Gly Gly Gly Ala Gly Arg Pro
    290                 295                 300

Ser Leu Gly Ser Glu Lys Lys Lys Glu Asp Pro Arg Arg Ala Gln Val
305                 310                 315                 320

Pro Pro Thr Arg Glu Ser Arg Val Lys Val Leu Arg Lys Leu Ala Ala
                325                 330                 335

Thr Ala Pro Ala Phe Pro Gln Pro Pro Ser Thr Pro Arg Ala Thr Thr
            340                 345                 350

Leu Pro Pro Ala Pro Ala Thr Thr Val Thr Arg Ser Thr Ser Arg Ala
        355                 360                 365

Val Thr Val Ala Ala Arg Pro Met Thr Thr Thr Ala Phe Pro Thr Thr
    370                 375                 380

Gln Arg Pro Trp Thr Pro Ser Pro Ser His Arg Pro Pro Thr Thr Thr
385                 390                 395                 400

Glu Val Ile Thr Ala Arg Arg Pro Ser Val Ser Glu Asn Leu Tyr Pro
                405                 410                 415

Pro Ser Arg Lys Asp Gln His Arg Glu Arg Pro Gln Thr Thr Arg Arg
            420                 425                 430
```

```
 1               5                   10                  15

Ser Glu Pro His Pro His Ala Thr Ile Arg Gly Ser His Gly Gly Arg
             20                  25                  30

Lys Val Pro Leu Val Ser Pro Asp Ser Ser Arg Pro Ala Arg Phe Leu
         35                  40                  45

Arg His Thr Gly Arg Ser Arg Gly Ile Glu Arg Ser Thr Leu Glu Glu
     50                  55                  60

Pro Asn Leu Gln Pro Leu Gln Arg Arg Arg Ser Val Pro Val Leu Arg
 65                  70                  75                  80

Leu Ala Arg Pro Thr Glu Pro Pro Ala Arg Ser Asp Ile Asn Gly Ala
                 85                  90                  95

Ala Val Arg Pro Glu Gln Arg Pro Ala Ala Arg Gly Ser Pro Arg Glu
            100                 105                 110

Met Ile Arg Asp Glu Gly Ser Ser Ala Arg Ser Arg Met Leu Arg Phe
        115                 120                 125

Pro Ser Gly Ser Ser Ser Pro Asn Ile Leu Ala Ser Phe Ala Gly Lys
    130                 135                 140

Asn Arg Val Trp Val Ile Ser Ser Pro His Ala Ser Xaa Gly Tyr Tyr
145                 150                 155                 160

Arg Leu



<210> 321
<211> 509
<212> PRT
<213> Homo sapiens

<400> 321
Met Thr Trp Arg Met Gly Pro Arg Phe Thr Met Leu Leu Ala Met Trp
 1               5                   10                  15

Leu Val Cys Gly Ser Glu Pro His Pro His Ala Thr Ile Arg Gly Ser
             20                  25                  30

His Gly Gly Arg Lys Val Pro Leu Val Ser Pro Asp Ser Ser Arg Pro
         35                  40                  45

Ala Arg Phe Leu Arg His Thr Gly Arg Ser Arg Gly Ile Glu Arg Ser
     50                  55                  60

Thr Leu Glu Glu Pro Asn Leu Gln Pro Leu Gln Arg Arg Arg Ser Val
 65                  70                  75                  80

Pro Val Leu Arg Leu Ala Arg Pro Thr Glu Pro Pro Ala Arg Ser Asp
                 85                  90                  95

Ile Asn Gly Ala Ala Val Arg Pro Glu Gln Arg Pro Ala Ala Arg Gly
            100                 105                 110
```

```
Trp Leu Tyr Lys His Ile Phe Pro Phe Ser Leu Ile Arg Tyr Asp Val
    450                 455                 460

Thr Thr Gly Glu Pro Ile Arg Asp Pro Gln Gly His Cys Met Ala Thr
465                 470                 475                 480

Ser Pro Gly Glu Pro Gly Leu Leu Val Ala Pro Val Ser Gln Gln Ser
                485                 490                 495

Pro Phe Leu Gly Tyr Ala Gly Gly Pro Glu Leu Ala Gln Gly Lys Leu
            500                 505                 510

Leu Lys Asp Val Phe Arg Pro Gly Asp Val Phe Phe Asn Thr Gly Asp
        515                 520                 525

Leu Leu Val Cys Asp Asp Gln Gly Phe Leu Arg Phe His Asp Arg Thr
    530                 535                 540

Gly Asp Thr Phe Arg Trp Lys Gly Glu Asn Val Ala Thr Thr Glu Val
545                 550                 555                 560

Ala Glu Val Phe Glu Ala Leu Asp Phe Leu Gln Glu Val Asn Val Tyr
                565                 570                 575

Gly Val Thr Val Pro Gly His Glu Gly Arg Ala Gly Met Ala Ala Leu
            580                 585                 590

Val Leu Arg Pro Pro His Ala Leu Asp Leu Met Gln Leu Tyr Thr His
        595                 600                 605

Val Ser Glu Asn Leu Pro Pro Tyr Ala Arg Pro Arg Phe Leu Arg Leu
    610                 615                 620

Gln Glu Ser Leu Ala Thr Thr Glu Thr Phe Lys Gln Gln Lys Val Arg
625                 630                 635                 640

Met Ala Asn Glu Gly Phe Asp Pro Ser Thr Leu Ser Asp Pro Leu Tyr
                645                 650                 655

Val Leu Asp Gln Ala Val Gly Ala Tyr Leu Pro Leu Thr Thr Ala Arg
            660                 665                 670

Tyr Ser Ala Leu Leu Ala Gly Asn Leu Arg Ile
        675                 680


<210> 320
<211> 162
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (157)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 320
Met Gly Pro Arg Phe Thr Met Leu Leu Ala Met Trp Leu Val Cys Gly
```

```
Glu Gly Glu Arg Ala Ala Pro Gly Ala Gly Asp Ala Ala Ala Gly Ser
    130                 135                 140

Gly Ala Glu Phe Ala Gly Gly Asp Gly Ala Ala Arg Gly Gly Gly Ala
145                 150                 155                 160

Ala Ala Pro Leu Ser Pro Gly Ala Thr Val Ala Leu Leu Leu Pro Ala
                165                 170                 175

Gly Pro Glu Phe Leu Trp Leu Trp Phe Gly Leu Ala Lys Ala Gly Leu
            180                 185                 190

Arg Thr Ala Phe Val Pro Thr Ala Leu Arg Arg Gly Pro Leu Leu His
        195                 200                 205

Cys Leu Arg Ser Cys Gly Ala Arg Ala Leu Val Leu Ala Pro Glu Phe
    210                 215                 220

Leu Glu Ser Leu Glu Pro Asp Leu Pro Ala Leu Arg Ala Met Gly Leu
225                 230                 235                 240

His Leu Trp Ala Ala Gly Pro Gly Thr His Pro Ala Gly Ile Ser Asp
                245                 250                 255

Leu Leu Ala Glu Val Ser Ala Glu Val Asp Gly Pro Val Pro Gly Tyr
            260                 265                 270

Leu Ser Ser Pro Gln Ser Ile Thr Asp Thr Cys Leu Tyr Ile Phe Thr
        275                 280                 285

Ser Gly Thr Thr Gly Leu Pro Lys Ala Ala Arg Ile Ser His Leu Lys
    290                 295                 300

Ile Leu Gln Cys Gln Gly Phe Tyr Gln Leu Cys Gly Val His Gln Glu
305                 310                 315                 320

Asp Val Ile Tyr Leu Ala Leu Pro Leu Tyr His Met Ser Gly Ser Leu
                325                 330                 335

Leu Gly Ile Val Gly Cys Met Gly Ile Gly Ala Thr Val Val Leu Lys
            340                 345                 350

Ser Lys Phe Ser Ala Gly Gln Phe Trp Glu Asp Cys Gln Gln His Arg
        355                 360                 365

Val Thr Val Phe Gln Tyr Ile Gly Glu Leu Cys Arg Tyr Leu Val Asn
    370                 375                 380

Gln Pro Pro Ser Lys Ala Glu Arg Gly His Lys Val Arg Leu Ala Val
385                 390                 395                 400

Gly Ser Gly Leu Arg Pro Asp Thr Trp Glu Arg Phe Val Arg Arg Phe
                405                 410                 415

Gly Pro Leu Gln Val Leu Glu Thr Tyr Gly Leu Thr Glu Gly Asn Val
            420                 425                 430

Ala Thr Ile Asn Tyr Thr Gly Gln Arg Gly Ala Val Gly Arg Ala Ser
        435                 440                 445
```

85 90 95

Glu Arg Glu Ser Asn Arg Ala Ala Arg Ala Phe Leu Arg Ala Leu Gly
100 105 110

Trp Asp Trp Gly Pro Asp Gly Gly Asp Ser Gly Glu Gly Ser Ala Gly
115 120 125

Glu Gly Glu Arg Ala Ala Pro Gly Ala Gly Asp Ala Ala Ala Gly Ser
130 135 140

Gly Ala Glu Phe Ala Gly Gly Asp Gly Ala Ala Arg Gly Gly Gly Ala
145 150 155 160

Ala Ala Leu Cys His Leu Glu Gln Leu Trp Arg Cys Ser Ser Pro Leu
165 170 175

Ala Gln Ser Phe Cys Gly Ser Gly Ser Gly Trp Pro Arg Pro Ala Cys
180 185 190

Ala Leu Pro Leu Cys Pro Pro Pro Cys Ala Gly Ala Pro Cys Cys Thr
195 200 205

Ala Ser Ala Ala Ala Ala Arg Ala Arg Trp Cys Trp Arg Gln Ser Phe
210 215 220

Trp Ser Pro Trp Ser Arg Thr Cys Pro Pro
225 230

<210> 319
<211> 683
<212> PRT
<213> Homo sapiens

<400> 319
Met Ala Ala Leu Leu Leu Leu Pro Leu Leu Leu Leu Leu Pro Leu Leu
1 5 10 15

Leu Leu Lys Leu His Leu Trp Pro Gln Leu Arg Trp Leu Pro Ala Asp
20 25 30

Leu Ala Phe Ala Val Arg Ala Leu Cys Cys Lys Arg Ala Leu Arg Ala
35 40 45

Arg Ala Leu Ala Ala Ala Ala Ala Asp Pro Glu Gly Pro Glu Gly Gly
50 55 60

Cys Ser Leu Ala Trp Arg Leu Ala Glu Leu Ala Gln Gln Arg Ala Ala
65 70 75 80

His Thr Phe Leu Ile His Gly Ser Arg Arg Phe Ser Tyr Ser Glu Ala
85 90 95

Glu Arg Glu Ser Asn Arg Ala Ala Arg Ala Phe Leu Arg Ala Leu Gly
100 105 110

Trp Asp Trp Gly Pro Asp Gly Gly Asp Ser Gly Glu Gly Ser Ala Gly
115 120 125

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<220>
<221> SITE
<222> (14)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (78)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 317
Gln Trp Gly Gly Gly Gln Leu Met Glu Leu Val Pro Leu Xaa Cys Ala
1               5                   10                  15

Phe Pro Gly Val Gly Ser Trp Gly Trp Glu Gln Gly Lys Ala Ala Ser
            20                  25                  30

Ser Leu Gly Phe Leu Leu Cys Leu Pro Arg Val Ala Ala Asn Pro Val
        35                  40                  45

Pro Ala Gly Gly Ala Gly Met Ala Ser Cys Pro Gly Leu Trp Gln Glu
    50                  55                  60

Thr Leu Phe Pro Leu Pro Val Gly Leu Pro Arg Leu Ser Xaa Pro Phe
65                  70                  75                  80

Ser His Lys Lys Ile Trp Gly Gln Ala Arg Trp Leu Thr Pro Val Ile
                85                  90                  95

Pro Ala Leu Trp Glu Ala Glu Ala Gly Ser His Lys Val Arg Arg Ser
            100                 105                 110

Gly Pro Ser Trp Leu Ile Arg
        115


<210> 318
<211> 234
<212> PRT
<213> Homo sapiens

<400> 318
Met Ala Ala Leu Leu Leu Leu Pro Leu Leu Leu Leu Leu Pro Leu Leu
1               5                   10                  15

Leu Leu Lys Leu His Leu Trp Pro Gln Leu Arg Trp Leu Pro Ala Asp
            20                  25                  30

Leu Ala Phe Ala Val Arg Ala Leu Cys Cys Lys Arg Ala Leu Arg Ala
        35                  40                  45

Arg Ala Leu Ala Ala Ala Ala Ala Asp Pro Glu Gly Pro Glu Gly Gly
    50                  55                  60

Cys Ser Leu Ala Trp Arg Leu Ala Glu Leu Ala Gln Gln Arg Ala Ala
65                  70                  75                  80

His Thr Phe Leu Ile His Gly Ser Arg Arg Phe Ser Tyr Ser Glu Ala
```

```
<210> 316
<211> 174
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (151)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (161)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (164)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 316
Met Ala Ala Leu Leu Leu Leu Pro Leu Leu Leu Leu Leu Pro Leu Leu
1               5                   10                  15

Leu Leu Lys Leu His Leu Trp Pro Gln Leu Arg Trp Leu Pro Ala Asp
            20                  25                  30

Leu Ala Phe Ala Val Arg Ala Leu Cys Cys Lys Arg Ala Leu Arg Ala
        35                  40                  45

Arg Ala Leu Ala Ala Ala Ala Ala Asp Pro Glu Gly Pro Glu Gly Gly
    50                  55                  60

Cys Ser Leu Ala Trp Arg Leu Ala Glu Leu Ala Gln Gln Arg Ala Ala
65                  70                  75                  80

His Thr Phe Leu Ile His Gly Ser Arg Arg Phe Ser Tyr Ser Glu Ala
                85                  90                  95

Glu Arg Glu Ser Asn Arg Ala Ala Arg Ala Phe Leu Arg Ala Leu Gly
            100                 105                 110

Trp Asp Trp Gly Pro Asp Gly Gly Asp Ser Gly Glu Gly Ser Ala Gly
        115                 120                 125

Glu Gly Glu Arg Ala Ala Pro Gly Ala Gly Asp Ala Ser Gly Arg Lys
    130                 135                 140

Arg Arg Gly Val Cys Arg Xaa Gly Thr Val Pro Pro Glu Gly Gly Arg
145                 150                 155                 160

Xaa Pro Pro Xaa Pro Phe Val Thr Leu Glu Ala Asn Cys Gly
                165                 170


<210> 317
<211> 119
<212> PRT
<213> Homo sapiens
```

```
<210> 314
<211> 42
<212> PRT
<213> Homo sapiens

<400> 314
Leu Pro Ala Arg Leu Leu Gln Arg Ser Pro Arg Arg Cys Arg Arg Arg
 1               5                  10                  15

Arg Val Pro Ser Pro Ser Leu Ala His Val Gly Arg Arg Val Gln Pro
            20                  25                  30

Cys Tyr Ser Arg Ala Pro Pro Leu Ser Ser
        35                  40



<210> 315
<211> 146
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (7)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 315
Met Ala Ala Leu Leu Leu Xaa Pro Leu Leu Leu Leu Leu Pro Leu Leu
 1               5                  10                  15

Leu Leu Lys Leu His Leu Trp Pro Gln Leu Arg Trp Leu Pro Ala Ala
            20                  25                  30

Thr Ala Ala Arg Gly Ala Leu Glu Lys Ala Ser Gly Gln Arg Arg Glu
        35                  40                  45

Pro Glu Met Gln Arg Pro Glu Ala Ala Arg Ser Leu Pro Glu Gly Thr
    50                  55                  60

Val Pro Pro Glu Val Glu Glu Pro Pro Pro Leu Cys His Leu Glu Gln
65                  70                  75                  80

Leu Trp Arg Cys Ser Ser Pro Leu Ala Gln Ser Phe Cys Gly Ser Gly
                85                  90                  95

Ser Gly Trp Pro Arg Pro Ala Cys Ala Leu Pro Leu Cys Pro Pro Pro
            100                 105                 110

Cys Ala Gly Ala Pro Cys Cys Thr Ala Ser Ala Ala Ala Ala Arg Ala
        115                 120                 125

Arg Trp Cys Trp Arg Gln Ser Phe Trp Ser Pro Trp Ser Arg Thr Cys
    130                 135                 140

Pro Pro
145
```

```
Ser Glu Gly Leu Val Asn Gln Phe Lys Thr Thr Asp Gln Tyr Leu Arg
            100                 105                 110

Asp Gln Asp Lys Gln Val Asn Ile Ala Ile Gly Ala Ser Val Asp Gln
        115                 120                 125

Ile Asn Asn Tyr Ala Lys Gln Ile Ala Ser Leu Asn Asp Gln Ile Ser
    130                 135                 140

Arg Leu Thr Gly Val Gly Ala Gly Ala Ser Pro Asn Asn Leu Leu Asp
145                 150                 155                 160

Gln Arg Asp Gln Leu Gly Glu Arg Ile Lys Pro Asp Cys Trp Cys Arg
                165                 170                 175

Ser Gln Arg Ser Gly Trp Arg His Leu
            180                 185



<210> 312
<211> 56
<212> PRT
<213> Homo sapiens

<400> 312
Met Ser His Cys Ala Trp Pro Pro Leu Leu Ile Phe Ile Thr Arg Val
  1               5                  10                  15

Gln Trp Ala Thr Ala Thr Lys Cys Gln Phe Thr Ala Lys Ser Gly Ile
             20                  25                  30

Gly Leu Thr Gln Gly Cys Ser Ser Val Phe Val Lys Leu Gly Leu Phe
         35                  40                  45

Leu Ile Cys Pro Tyr Asp Trp Glu
     50                  55



<210> 313
<211> 56
<212> PRT
<213> Homo sapiens

<400> 313
Met Ser His Cys Ala Trp Pro Pro Leu Leu Ile Phe Ile Thr Arg Val
  1               5                  10                  15

Gln Trp Ala Thr Ala Thr Lys Cys Gln Phe Thr Ala Lys Ser Gly Ile
             20                  25                  30

Gly Leu Thr Gln Gly Cys Ser Ser Val Phe Val Lys Leu Gly Leu Phe
         35                  40                  45

Leu Ile Cys Pro Tyr Asp Trp Glu
     50                  55
```

```
Ser Gln Ala Leu Ala Asp Ile Ala Ala Thr Trp Glu Leu Pro Glu Gly
305                 310                 315                 320

Asp Val Ile Asp Pro Leu Pro Ile Tyr Thr Pro Gly Phe Glu Ser Tyr
                325                 330                 335

Gln Asp Pro Leu Asn Lys Gln Tyr Pro Leu Gln Leu Thr Gly Phe His
            340                 345                 350

Tyr Lys Ser Arg Val His Ser Thr Tyr Gly Asn Val Asp Val Leu Lys
        355                 360                 365

Ala Ala Cys Arg Gln Glu Met Trp Ile Asn Pro Leu Asp Ala Gln Lys
    370                 375                 380

Arg Gly Ile His Asn Gly Asp Lys Val Arg Ile Phe Asn Asp Arg Gly
385                 390                 395                 400

Glu Val His Ile Glu Ala Lys Val Thr Pro Arg Met Met Pro Gly Val
                405                 410                 415

Val Ala Leu Gly Glu Gly Ala Trp Tyr Asp Pro Asp Ala Lys Arg Val
            420                 425                 430

Asp Lys Gly Gly Cys Ile Asn Val Leu Thr Thr Gln Arg Pro Ser Pro
        435                 440                 445

Leu Ala Lys Gly Asn Pro Ser His Thr Asn Leu Val Gln Val Glu Lys
    450                 455                 460

Val
465


<210> 311
<211> 185
<212> PRT
<213> Homo sapiens

<400> 311
Met Ala Gln Ala Asn Ser Thr Leu Gly Ala Gly Gly Trp Val Gly Asn
  1               5                  10                  15

Gly Val Tyr Val Ser Gly Val Gln Arg Glu Tyr Asp Ala Phe Ile Thr
             20                  25                  30

Asn Gln Leu Arg Ala Ala Gln Thr Gln Ser Ser Gly Leu Thr Ala Arg
         35                  40                  45

Tyr Glu Gln Met Ser Lys Ile Asp Asn Met Leu Ser Thr Ser Thr Ser
     50                  55                  60

Ser Leu Ala Thr Gln Met Gln Asp Phe Phe Thr Ser Leu Gln Thr Leu
 65                  70                  75                  80

Val Ser Asn Ala Glu Asp Pro Ala Ala Arg Gln Ala Leu Ile Gly Lys
                 85                  90                  95
```

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<222> (44)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 310
Asn Arg Arg Asn Gly Ala Ser Gln Ile Thr Trp Cys Ser Gly Gln Xaa
 1               5                   10                  15

Lys Ser Ser Lys Trp Ala Arg Glu Ile Gly Xaa Tyr Gln Thr Gly Val
            20                  25                  30

Tyr Gln Pro Gly Trp Gly Pro Gln Arg His Ala Xaa Gly Glu Ile Ala
        35                  40                  45

Thr Arg Ala Ile Ser Met Leu Ala Ile Leu Thr Gly Asn Val Gly Ile
    50                  55                  60

Asn Gly Gly Asn Ser Gly Ala Arg Glu Gly Ser Tyr Ser Leu Pro Phe
65                  70                  75                  80

Val Arg Met Pro Thr Leu Glu Asn Pro Ile Gln Thr Ser Ile Ser Met
                85                  90                  95

Phe Met Trp Thr Asp Ala Ile Glu Arg Gly Pro Glu Met Thr Ala Leu
            100                 105                 110

Arg Asp Gly Val Arg Gly Lys Asp Lys Leu Asp Val Pro Ile Lys Met
        115                 120                 125

Ile Trp Asn Tyr Ala Gly Asn Cys Leu Ile Asn Gln His Ser Glu Ile
    130                 135                 140

Asn Arg Thr His Glu Ile Leu Gln Asp Asp Lys Lys Cys Glu Leu Ile
145                 150                 155                 160

Val Val Ile Asp Cys His Met Thr Ser Ser Ala Lys Tyr Ala Asp Ile
                165                 170                 175

Leu Leu Pro Asp Cys Thr Ala Ser Glu Gln Met Asp Phe Ala Leu Asp
            180                 185                 190

Ala Ser Cys Gly Asn Met Ser Tyr Val Ile Phe Asn Asp Gln Val Ile
        195                 200                 205

Lys Pro Arg Phe Glu Cys Lys Thr Ile Tyr Glu Met Thr Ser Glu Leu
    210                 215                 220

Ala Lys Arg Leu Gly Val Glu Gln Gln Phe Thr Glu Gly Arg Thr Gln
225                 230                 235                 240

Glu Glu Trp Met Arg His Leu Tyr Ala Gln Ser Arg Glu Ala Ile Pro
                245                 250                 255

Glu Leu Pro Thr Phe Glu Glu Phe Arg Lys Gln Gly Ile Phe Lys Lys
            260                 265                 270

Arg Asp Pro Gln Gly His His Val Ala Tyr Lys Ala Phe Arg Glu Asp
        275                 280                 285

Pro Gln Ala Asn Pro Leu Thr Thr Pro Ser Gly Lys Ile Glu Ile Tyr
    290                 295                 300
```

```
225                 230                 235                 240

Ser Arg His Gln Leu Thr Val His Gln Arg Val His Thr Gly Glu Lys
                245                 250                 255

Pro Tyr Lys Cys Lys Glu Glu Gly
            260



<210> 307
<211> 9
<212> PRT
<213> Homo sapiens

<400> 307
Met Trp Val Cys Ser Ile Thr Asp Gln
  1               5



<210> 308
<211> 10
<212> PRT
<213> Homo sapiens

<400> 308
Leu Thr Tyr Leu Ala His Leu Leu Cys Phe
  1               5                  10



<210> 309
<211> 10
<212> PRT
<213> Homo sapiens

<400> 309
Met Cys Ser Leu Ser Ser Glu His Leu Ala
  1               5                  10



<210> 310
<211> 465
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (16)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (27)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
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<220>
<221> SITE
<222> (88)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (170)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (171)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 306
Thr Trp Gly Lys Xaa Lys Xaa Pro Phe Ile Glu Ser Xaa Pro Gly Gly
 1               5                   10                  15

Lys Ile Gly Trp Gly Lys Lys Gly Leu Phe Phe Leu Lys Val Asn Tyr
             20                  25                  30

Trp Gly Lys Lys Ala Phe Asn Pro Arg Gly His Ser Lys Lys Val Thr
         35                  40                  45

Phe His Gln Leu Gly Leu Lys Lys Asn Pro Phe Trp Gly Leu Xaa Lys
     50                  55                  60

Glu Val Leu Gly Lys Ala Phe Ser Thr Phe Ser Tyr Leu Val Gln His
 65                  70                  75                  80

Gln Arg Ile His Thr Ser Glu Xaa Pro Tyr Glu Cys Lys Glu Cys Gly
                 85                  90                  95

Lys Ala Phe Ser Thr Ser Ser Pro Leu Ala Lys His Gln Arg Ile His
            100                 105                 110

Thr Gly Glu Lys Pro Tyr Glu Cys Lys Glu Cys Gly Lys Ser Phe Thr
        115                 120                 125

Val Tyr Gly Gln Leu Thr Arg His Gln Ser Ile His Thr Gly Glu Lys
    130                 135                 140

Pro Phe Glu Cys Lys Glu Cys Gly Lys Ala Phe Arg Leu Ser Ser Phe
145                 150                 155                 160

Leu His Ala His Gln Arg Ile His Ala Xaa Xaa Lys Pro Tyr Gly Cys
                165                 170                 175

Lys Glu Cys Gly Lys Thr Phe Ser Arg Ala Ser Tyr Leu Val Gln His
            180                 185                 190

Gly Arg Leu His Thr Gly Glu Lys Pro Cys Glu Cys Lys Glu Cys Gly
        195                 200                 205

Lys Ala Phe Ser Thr Gly Ser Tyr Leu Val Gln His Gln Arg Ile His
    210                 215                 220

Thr Gly Glu Lys Pro Tyr Glu Cys Lys Glu Cys Gly Lys Ala Phe Ile
```

<221> SITE
<222> (5)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 304

```
Gln Arg Ile His Xaa Gly Glu Lys Pro Tyr Glu Cys Asn Lys Cys Gly
 1               5                   10                  15

Lys Ala Phe Thr Val Tyr Gly Gln Leu Ile Gly His Gln Ser Val His
             20                  25                  30

Thr Gly Glu Lys Pro Phe Glu Cys Lys Glu Cys Gly Lys Ala Phe Arg
         35                  40                  45

Leu Asn Ser Phe Leu Thr Glu His Gln Arg Val His Thr Gly Glu Lys
     50                  55                  60

Pro Phe Lys Cys Lys Lys Cys Gly Lys Thr Phe Arg Tyr Ser Ser Ala
 65                  70                  75                  80

Leu Lys Val His Leu Arg Lys His Met Ser Val Ile Pro
                 85                  90
```

<210> 305
<211> 9
<212> PRT
<213> Homo sapiens

<400> 305

```
Met Trp Val Cys Ser Ile Thr Asp Gln
 1               5
```

<210> 306
<211> 264
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (5)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (7)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (13)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (63)
<223> Xaa equals any of the naturally occurring L-amino acids

```
Asn Glu Leu Val Thr Leu Thr Cys Leu Ala Arg Gly Phe Ser Pro Lys
385                 390                 395                 400

Asp Val Leu Val Arg Trp Leu Gln Gly Ser Gln Glu Leu Pro Arg Glu
                405                 410                 415

Lys Tyr Leu Thr Trp Ala Ser Arg Gln Glu Pro Ser Gln Gly Thr Thr
            420                 425                 430

Thr Phe Ala Val Thr Ser Ile Leu Arg Val Ala Ala Glu Asp Trp Lys
        435                 440                 445

Lys Gly Asp Thr Phe Ser Cys Met Val Gly His Glu Ala Leu Pro Leu
    450                 455                 460

Ala Phe Thr Gln Lys Thr Ile Asp Arg Leu Ala Gly Lys Pro Thr His
465                 470                 475                 480

Val Asn Val Ser Val Val Met Ala Glu Val Asp Gly Thr Cys Tyr
                485                 490                 495


<210> 303
<211> 90
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (8)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 303
Pro Tyr Glu Cys Lys Glu Cys Xaa Lys Ala Phe Arg Val His Val His
 1               5                  10                  15

Leu Thr Gln His Arg Lys Ile His Thr Asp Val Lys Pro Tyr Glu Cys
            20                  25                  30

Lys Glu Cys Gly Lys Thr Phe Ser Arg Ala Ser Tyr Leu Val Gln His
        35                  40                  45

Ser Arg Ile His Thr Gly Lys Lys Pro Tyr Glu Cys Lys Glu Cys Gly
    50                  55                  60

Lys Ala Phe Ser Ser Gly Ser Tyr Leu Val Gln His Gln Arg Ile His
65                  70                  75                  80

Thr Gly Glu Arg Pro Tyr Trp Leu Thr Tyr
                85                  90


<210> 304
<211> 93
<212> PRT
<213> Homo sapiens

<220>
```

```
Gly Leu Glu Trp Ile Gly His Ile Asp Tyr Thr Gly Lys Thr Asp Tyr
 65                  70                  75                  80

Lys Ser Ser Leu Lys Asn Gln Val Ser Ile Ser Gln Asp Thr Ala Lys
                 85                  90                  95

Asn Gln Phe Phe Leu Arg Val Glu Ser Val Thr Ala Ala Asp Thr Ala
            100                 105                 110

Val Tyr Phe Cys Ala Arg Leu Phe Glu Ser Ser Gly Tyr Gly Ala Trp
        115                 120                 125

Leu Asp Pro Trp Gly Pro Gly Ile Leu Val Thr Val Ser Ser Ala Ser
    130                 135                 140

Pro Thr Ser Pro Lys Val Phe Pro Leu Ser Leu Cys Ser Thr Gln Pro
145                 150                 155                 160

Asp Gly Asn Val Val Ile Ala Cys Leu Val Gln Gly Phe Phe Pro Gln
                165                 170                 175

Glu Pro Leu Ser Val Thr Trp Ser Glu Ser Gly Gln Gly Val Thr Ala
            180                 185                 190

Arg Asn Phe Pro Pro Ser Gln Asp Ala Ser Gly Asp Leu Tyr Thr Thr
        195                 200                 205

Ser Ser Gln Leu Thr Leu Pro Ala Thr Gln Cys Leu Ala Gly Lys Ser
    210                 215                 220

Val Thr Cys His Val Lys His Tyr Thr Asn Pro Ser Gln Asp Val Thr
225                 230                 235                 240

Val Pro Cys Pro Val Pro Ser Thr Pro Pro Thr Pro Ser Pro Ser Thr
                245                 250                 255

Pro Pro Thr Pro Ser Pro Ser Cys Cys His Pro Arg Leu Ser Leu His
            260                 265                 270

Arg Pro Ala Leu Glu Asp Leu Leu Leu Gly Ser Glu Ala Asn Leu Thr
        275                 280                 285

Cys Thr Leu Thr Gly Leu Arg Asp Ala Ser Gly Val Thr Phe Thr Trp
    290                 295                 300

Thr Pro Ser Ser Gly Lys Ser Ala Val Gln Gly Pro Pro Asp Arg Asp
305                 310                 315                 320

Leu Cys Gly Cys Tyr Ser Val Ser Ser Val Leu Pro Gly Cys Ala Glu
                325                 330                 335

Pro Trp Asn His Gly Lys Thr Phe Thr Cys Thr Ala Ala Tyr Pro Glu
            340                 345                 350

Ser Lys Thr Pro Leu Thr Ala Thr Leu Ser Lys Ser Gly Asn Thr Phe
        355                 360                 365

Arg Pro Glu Val His Leu Leu Pro Pro Pro Ser Glu Glu Leu Ala Leu
    370                 375                 380
```

```
<400> 300
Met Leu Leu Leu Trp Ala Ser Ser Leu Pro Thr Arg Cys Asp Cys Ser
 1               5                   10                  15

Phe Pro Val Thr Pro Leu Val Pro Leu Val His Val Ile Cys Val Trp
             20                  25                  30

Val Met Phe Pro Ser Ala Ala Thr Ala Ala Cys His Pro Gly Ala Gly
         35                  40                  45

Ala Phe Phe Ser Gln Gly Pro Ser Pro Phe Ser Arg Thr Trp Pro Leu
     50                  55                  60

Leu Gly His Arg Glu Ile Pro Ala Glu Gly Ala Gly Glu Thr Val Ala
 65                  70                  75                  80

Leu Gly Leu Gln Pro Lys Arg His Thr Leu Ala Val Gly Val His Gly
                 85                  90                  95

Met Leu Ala Leu Ser Thr Val Thr Val Gly Gly Phe Gly Gly Phe Pro
             100                 105                 110

Trp Thr Ser Gly Pro Gly Cys Pro Pro Leu Ser Trp Thr Cys Phe Ile
         115                 120                 125

Phe Pro Ile Leu Thr
     130



<210> 301
<211> 11
<212> PRT
<213> Homo sapiens

<400> 301
Ser Ser Leu Lys Asn Gln Val Ser Val Ser Gln
 1               5                   10



<210> 302
<211> 495
<212> PRT
<213> Homo sapiens

<400> 302
Met Lys His Leu Trp Phe Phe Leu Leu Leu Val Ala Ala Pro Arg Trp
 1               5                   10                  15

Val Leu Ser Gln Val Glu Leu Gln Glu Ser Gly Pro Gly Leu Val Lys
             20                  25                  30

Pro Ser Gln Thr Leu Ser Leu Thr Cys Ser Val Ser Gly Val Ser Met
         35                  40                  45

Ser Arg Gly Asp Trp Ser Trp Ser Trp Val Arg Gln Val Pro Gly Lys
     50                  55                  60
```

```
<213> Homo sapiens

<220>
<221> SITE
<222> (3)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (67)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 298
Pro Ser Xaa Met Leu Leu Leu Trp Ala Ser Ser Leu Pro Thr Arg Cys
 1               5                  10                  15

Asp Cys Ser Phe Pro Val Thr Pro Leu Val Pro Leu Val His Val Ile
            20                  25                  30

Cys Val Trp Val Met Phe Pro Ser Ala Ala Thr Ala Ala Cys His Pro
        35                  40                  45

Gly Ala Gly Ala Phe Phe Ser Gln Gly Pro Ser Pro Phe Ser Arg Thr
    50                  55                  60

Trp Pro Xaa Leu Gly His Arg Glu Ile Pro Ala Glu Gly Ala Gly Glu
 65                 70                  75                  80

Thr Val Ala Leu Gly Leu Gln Pro Lys Arg His Thr Leu Ala Val Gly
                85                  90                  95

Val His Gly Met Leu Ala Leu Ser Thr Val Thr Val Gly Gly Phe Gly
            100                 105                 110

Gly Phe Pro Trp Thr Ser Gly Pro Gly Cys Pro Pro Leu Ser Trp Thr
        115                 120                 125

Cys Phe Ile Phe Pro Ile Leu Thr
    130                 135



<210> 299
<211> 19
<212> PRT
<213> Homo sapiens

<400> 299
Gln Ile Trp Pro Phe Leu Pro Pro Ser Gln Pro Ser Gly Pro Leu Gln
 1               5                  10                  15

Arg Ala Val



<210> 300
<211> 133
<212> PRT
<213> Homo sapiens
```

<223> Xaa equals any of the naturally occurring L-amino acids

<400> 295
Met Val Ala Xaa Leu Leu Ile Leu Leu Leu Asp Ser Gly Xaa Leu Leu
1 5 10 15

Ala Gly

<210> 296
<211> 126
<212> PRT
<213> Homo sapiens

<400> 296
Ala Thr Thr Ser Val Pro Lys Tyr Val Phe Asn Leu Asn Phe Ile Leu
1 5 10 15

Met Cys Leu Arg Asp Glu Ser Lys Tyr Met Leu Val Thr Ser His Ser
20 25 30

Asn Val Glu Val Gly Arg Trp Leu Pro Gly Leu Pro Ser Pro Gly Arg
35 40 45

Ile Cys Gly Glu Gln Ser Asp Val His Pro Ser Gly Leu Phe Ser Ile
50 55 60

Asn Asp Ser Leu Leu Asp Leu Leu Leu Leu Gly Phe Arg Ser Lys Arg
65 70 75 80

Gly Ile Val Val Glu Asn Ala Leu Leu Gly Glu Gly Glu Pro Glu Ile
85 90 95

His Lys Arg Arg Leu Pro Cys Ser Phe Ala Tyr Leu Ala Ala Pro Arg
100 105 110

Leu Gly Val Arg Ile Pro Gly Phe Pro Ser Leu Leu Cys His
115 120 125

<210> 297
<211> 26
<212> PRT
<213> Homo sapiens

<400> 297
Met Pro Val Val Leu Phe Gln Leu Trp Leu Phe Ile Leu Lys Thr Asp
1 5 10 15

Asn Ala Phe Ala Trp Leu Lys Ile Arg Arg
20 25

<210> 298
<211> 136
<212> PRT

```
Pro Gly Leu Phe Leu Ser Pro Ser
                85



<210> 294
<211> 80
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (61)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (69)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (75)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 294
Met His His His Thr Arg Leu Val Phe Val Phe Leu Val Glu Met Gly
 1               5                  10                  15

Phe His His Val Gly Gln Ala Gly Leu Glu Leu Leu Thr Ser Ser Asp
            20                  25                  30

Leu Pro Ala Leu Ala Ser Gln Ser Ala Gly Ile Thr Gly Val Ser His
        35                  40                  45

Cys Ala Gln Leu Pro Phe Leu Pro Leu Lys Ser Lys Xaa Gly Trp Glu
    50                  55                  60

Leu Ser Pro Trp Xaa Phe Met Val Ala Lys Xaa Leu Asn Pro Val Ala
65                  70                  75                  80



<210> 295
<211> 18
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (4)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (14)
```

```
Pro Arg Gln Cys Ala Leu Phe Leu Val Leu Lys Gly Glu Leu Glu Leu
    130                 135                 140

Ala Arg Asn Asp Ile Asp Leu Cys Gln Ser Asp Leu Gln Gln Val Leu
145                 150                 155                 160

Phe Leu Leu Glu Ser Cys Thr Glu Phe Gly Gly Val Thr Gln His Leu
                165                 170                 175

Asp Ser Val Lys Lys Val His Leu Gln Lys Gly Lys Gln Gln Ala Gln
            180                 185                 190

Val Pro Cys Pro Pro Gln Leu Pro Glu Glu Glu Leu Phe Leu Arg Gly
        195                 200                 205

Pro Ala Leu Glu Leu Val Pro Leu Trp Pro Arg Ser Leu Ala Pro
    210                 215                 220



<210> 293
<211> 88
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (7)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (30)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (43)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (46)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 293
Ala Asp Pro Ser Pro Ser Xaa Trp Leu Gln Thr His Arg Gly Pro Arg
 1               5                  10                  15

Leu Leu Trp Pro His His Gln Gln Leu Leu Leu Ser Phe Xaa Glu Pro
            20                  25                  30

Arg Lys Pro Leu Ile Leu Leu Leu Pro Val Xaa Ala Pro Xaa Ser Leu
        35                  40                  45

Lys Pro His Ser Cys Ile Pro Phe Ser Leu Asp Ile Thr Pro Pro Thr
    50                  55                  60

Pro Trp Leu Asn Phe Leu Pro Val Val Ala Trp Ser Phe Gly His Cys
65                  70                  75                  80
```

```
    130                 135                 140

Ala Arg Asn Asp Ile Asp Leu Cys Gln Ser Asp Leu Gln Gln Val Leu
145                 150                 155                 160

Phe Leu Leu Glu Ser Cys Thr Glu Phe Gly Gly Val Thr Gln His Leu
                165                 170                 175

Asp Ser Val Lys Lys Val His Leu Gln Lys Gly Lys Gln Gln Ala Gln
            180                 185                 190

Val Pro Cys Pro Pro Gln Leu Pro Glu Glu Glu Leu Phe Leu Arg Gly
        195                 200                 205

Pro Ala Leu Glu Leu Val Pro Leu Trp Pro Arg Ser Leu Ala Pro
    210                 215                 220



<210> 291
<211> 8
<212> PRT
<213> Homo sapiens

<400> 291
Ala Trp Phe Leu Val Lys Pro Glu
 1               5



<210> 292
<211> 223
<212> PRT
<213> Homo sapiens

<400> 292
Ala Trp Tyr Leu Leu Arg Val Gln Val Leu Gln Leu Val Ala Ala Tyr
 1               5                   10                  15

Leu Ser Leu Pro Ser Asn Asn Leu Ser His Ser Leu Trp Glu Gln Leu
             20                  25                  30

Cys Ala Gln Gly Trp Gln Thr Pro Glu Ile Ala Leu Ile Asp Ser His
         35                  40                  45

Lys Leu Leu Arg Ser Ile Ile Leu Leu Leu Met Gly Ser Asp Ile Leu
     50                  55                  60

Ser Thr Gln Lys Ala Ala Val Glu Thr Ser Phe Leu Asp Tyr Gly Glu
 65                  70                  75                  80

Asn Leu Val Gln Lys Trp Gln Val Leu Ser Glu Val Leu Ser Cys Ser
                 85                  90                  95

Glu Lys Leu Val Cys His Leu Gly Arg Leu Gly Ser Val Ser Glu Ala
            100                 105                 110

Lys Ala Phe Cys Leu Glu Ala Leu Lys Leu Thr Thr Lys Leu Gln Ile
        115                 120                 125
```

```
<212> PRT
<213> Homo sapiens

<400> 289
Ile Val Leu Lys Tyr Ile Met Ala Gly Cys Pro Leu Phe Leu Gly Asn
 1               5                  10                  15

Leu Trp Asp Val Thr Asp Arg Asp Ile Asp Arg Tyr Thr Glu Ala Leu
            20                  25                  30

Leu Gln Gly Trp Leu Gly Ser Arg Pro Arg Ala Pro Leu Leu Tyr Tyr
        35                  40                  45

Val Asn Gln Ala Arg Gln Ala Pro Arg Leu Lys Tyr Leu Ile Gly Ala
    50                  55                  60

Ala Pro Ile Pro Met Ala Cys Leu Ser Leu Cys Gly Asn Pro Met Glu
65                  70                  75                  80

Leu Ser Tyr




<210> 290
<211> 223
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (132)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 290
Ala Trp Tyr Leu Leu Arg Val Gln Val Leu Gln Leu Val Ala Ala Tyr
 1               5                  10                  15

Leu Ser Leu Pro Ser Asn Asn Leu Ser His Ser Leu Trp Glu Gln Leu
            20                  25                  30

Cys Ala Gln Gly Trp Gln Thr Pro Glu Ile Ala Leu Ile Asp Ser His
        35                  40                  45

Lys Leu Leu Arg Ser Ile Ile Leu Leu Leu Met Gly Ser Asp Ile Leu
    50                  55                  60

Ser Thr Gln Lys Ala Ala Val Glu Thr Ser Phe Leu Asp Tyr Gly Glu
65                  70                  75                  80

Asn Leu Val Gln Lys Trp Gln Val Leu Ser Glu Val Leu Ser Cys Ser
                85                  90                  95

Glu Lys Leu Val Cys His Leu Gly Arg Leu Gly Ser Val Ser Glu Ala
            100                 105                 110

Lys Ala Phe Cys Leu Glu Ala Leu Lys Leu Thr Thr Lys Leu Gln Ile
        115                 120                 125

Pro Arg Gln Xaa Ala Leu Phe Leu Val Leu Lys Gly Glu Leu Glu Leu
```

His Glu Leu Ile Xaa Phe Tyr Gly Cys Ile Val Phe His Gly Val Tyr
20 25 30

Val Pro His Phe Leu Asn Leu Val Cys His Cys Trp Thr Phe Gly Leu
35 40 45

Val Pro Ser Leu Cys Tyr Cys Glu
50 55

<210> 287
<211> 75
<212> PRT
<213> Homo sapiens

<400> 287
Met Ser Trp Leu Phe Pro Ala Thr Ile Leu Phe Glu Glu Lys Ile Cys
1 5 10 15

Phe Ser Leu Phe Pro Arg Lys Leu Val Gly Gln His Gly His Tyr Ser
20 25 30

Ser Cys Ala Val Thr Pro Ala Pro Arg Cys Leu Glu Leu Ser Val Leu
35 40 45

Thr Phe Met His Asp Cys Lys Ala Ser Trp Ser Ile Phe Tyr Gly Ala
50 55 60

Ser Val Cys Phe Arg Pro Met Thr Phe Val Arg
65 70 75

<210> 288
<211> 75
<212> PRT
<213> Homo sapiens

<400> 288
Met Ser Trp Leu Phe Pro Ala Thr Ile Leu Phe Glu Glu Lys Ile Cys
1 5 10 15

Phe Ser Leu Phe Pro Arg Lys Leu Val Gly Gln His Gly His Tyr Ser
20 25 30

Ser Cys Ala Val Thr Pro Ala Pro Arg Cys Leu Glu Leu Ser Val Leu
35 40 45

Thr Phe Met His Asp Cys Lys Ala Ser Trp Ser Ile Phe Tyr Gly Ala
50 55 60

Ser Val Cys Phe Arg Pro Met Thr Phe Val Arg
65 70 75

<210> 289
<211> 83

210 215 220

Ser Ser Ser Ser Ser Ser Ser Ser Ser Ser His Ser Met Gly Val Phe
225 230 235 240

<210> 285
<211> 43
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (7)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 285
Tyr Ser Met Val Tyr Met Xaa His Ile Phe Leu Ile Gln Ser Ile Ile
1 5 10 15

Asp Gly His Leu Gly Trp Phe Gln Val Phe Ala Ile Val Asn Ser Ala
20 25 30

Thr Val Asn Ile Arg Val His Val Ser Leu Trp
35 40

<210> 286
<211> 56
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (3)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (4)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (14)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (21)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 286
Phe Ala Xaa Xaa Asp Gly Phe Gln Leu His Pro Cys Pro Xaa Lys Gly
1 5 10 15

```
Val Leu Ile Lys Ser Glu Asp Met Thr Leu Xaa Glu Arg Ser Lys Gly
         35                  40                  45

Ser Xaa
     50



<210> 284
<211> 240
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (67)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 284
Gly Glu Gly Asp Asp Lys Glu Glu Ser Val Glu Lys Leu Asp Cys His
 1               5                   10                  15

Tyr Ser Gly His His Pro Gln Pro Ala Ser Phe Cys Thr Phe Gly Ser
             20                  25                  30

Arg Gln Ile Gly Arg Gly Tyr Tyr Val Phe Asp Ser Arg Trp Asn Arg
         35                  40                  45

Leu Arg Cys Ala Leu Asn Leu Met Val Glu Lys His Leu Asn Ala Gln
     50                  55                  60

Leu Trp Xaa Lys Ile Pro Pro Val Pro Ser Thr Thr Ser Pro Ile Ser
 65                  70                  75                  80

Thr Arg Ile Pro His Arg Thr Asn Ser Val Pro Thr Ser Gln Cys Gly
                 85                  90                  95

Val Ser Tyr Leu Ala Ala Ala Thr Val Ser Thr Ser Pro Val Leu Leu
            100                 105                 110

Ser Ser Thr Cys Ile Ser Pro Asn Ser Lys Ser Val Pro Ala His Gly
        115                 120                 125

Thr Thr Leu Asn Ala Gln Pro Ala Ala Ser Gly Ala Met Asp Pro Val
    130                 135                 140

Cys Ser Met Gln Ser Arg Gln Val Ser Ser Ser Ser Ser Ser Pro Ser
145                 150                 155                 160

Thr Pro Ser Gly Leu Ser Ser Val Pro Ser Ser Pro Met Ser Arg Lys
                165                 170                 175

Pro Gln Lys Leu Lys Ser Ser Lys Ser Leu Arg Pro Lys Glu Ser Ser
            180                 185                 190

Gly Asn Ser Thr Asn Cys Gln Asn Ala Ser Ser Ser Thr Ser Gly Gly
        195                 200                 205

Ser Gly Lys Lys Arg Lys Asn Ser Ser Pro Leu Leu Val His Ser Ser
```

<400> 281
Met Gly Thr His Pro Lys Tyr Leu Glu Met Met Glu Leu Asp Ile Gly
1 5 10 15

Asp Ala Thr Gln Val Tyr Val Ala Phe Leu Val Tyr Leu Asp Leu Met
20 25 30

Glu Ser Lys Ser Trp His Glu Val Asn Cys Val Gly Leu Pro Glu Leu
35 40 45

Gln Leu Ile Cys Leu Val Gly Thr Glu Ile Glu Gly Glu Gly Leu Gln
50 55 60

Thr Val Val Pro Asn Pro His His Cys Phe Pro Gln Pro
65 70 75

<210> 282
<211> 49
<212> PRT
<213> Homo sapiens

<400> 282
Met Gly Gly Thr Cys Val Leu Leu Leu Ser Ser His Thr Gln Ser Cys
1 5 10 15

Leu Phe Val Ser Cys Cys His Cys Gln Leu Ile Val Glu Thr Ala Ile
20 25 30

Ser Phe Ser Tyr Ser Ala Leu Pro Ser Ala Phe Trp Pro Leu Gln Leu
35 40 45

Pro

<210> 283
<211> 50
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (43)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (50)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 283
Met Asn Phe Leu Val Phe Leu Ser Leu Ser Ser Ser Leu Val Ser Ala
1 5 10 15

Ala Gly Pro Arg Phe Pro Ser Arg Glu Glu Arg Gly Val Gly Gly Val
20 25 30

```
 1               5                   10                  15

Ala Pro Leu Arg Phe Ile Lys Gly Leu Leu Gly Pro Trp Gly Trp Ile
             20                  25                  30

Leu Leu Ile Leu Asp Leu Glu
         35



<210> 279
<211> 39
<212> PRT
<213> Homo sapiens

<400> 279
Met Ala Phe Gly Gln Glu Val Thr His Leu Thr Lys Thr Ser Trp Leu
 1               5                   10                  15

Ala Pro Leu Arg Phe Ile Lys Gly Leu Leu Gly Pro Trp Gly Trp Ile
             20                  25                  30

Leu Leu Ile Leu Asp Leu Glu
         35



<210> 280
<211> 107
<212> PRT
<213> Homo sapiens

<400> 280
Gly Leu Asp Val Gln Pro Val Ala Gln Gly Ser Lys Leu Thr Gln Glu
 1               5                   10                  15

Val Arg Glu Gly Cys Leu Ala Val Ala Gly Ala Asn Gly Phe Arg Gly
             20                  25                  30

Gly Tyr Asp Gly Tyr Arg Pro Ser Phe Ser Asn Thr Pro Asn Ser Gly
         35                  40                  45

Tyr Thr Gln Ser Gln Phe Ser Ala Pro Arg Asp Tyr Ser Gly Tyr Gln
     50                  55                  60

Arg Asp Gly Tyr Gln Gln Asn Phe Lys Arg Gly Ser Gly Gln Ser Gly
 65                  70                  75                  80

Pro Arg Gly Ala Pro Arg Gly Arg Gly Gly Pro Pro Arg Pro Asn Arg
                 85                  90                  95

Gly Met Pro Gln Met Asn Thr Gln Gln Val Asn
            100                 105



<210> 281
<211> 77
<212> PRT
<213> Homo sapiens
```

```
Leu Cys Ser Ala Trp Leu Leu Thr Ala Ser Phe Ser Ala Gln Gln His
             20                  25                  30

Lys Gly Ser Leu Gln Val His Gln Thr Leu Ser Val Glu Met Asp Gln
         35                  40                  45

Val Leu Lys Ala Leu Ser Phe Pro Lys Lys Lys Ala Ala Leu Leu Ser
     50                  55                  60

Ala Ala Ile Leu Cys Phe Leu Arg Thr Ala Leu Arg Gln Ser Phe Ser
 65                  70                  75                  80

Ser Ala Leu Val Ala Leu Val Pro Ser Gly Ala Gln Pro Leu Pro Ala
                 85                  90                  95

Thr Lys Asp Thr Val Leu Ala Pro Leu Arg Met Ser Gln Val Arg Ser
            100                 105                 110

Leu Val Ile Gly Leu Gln Asn Leu Leu Val Gln Lys Asp Pro Leu Leu
        115                 120                 125

Ser Gln Ala Cys Val Gly Cys Leu Glu Ala Leu Leu Asp Tyr Leu Asp
    130                 135                 140

Ala Arg Ser Pro Asp Ile Ala Leu His Val Ala Ser Gln Pro Trp Asn
145                 150                 155                 160

Arg Phe Leu Leu Phe Thr Leu Leu Asp Ala Gly Glu Asn Ser Phe Leu
                165                 170                 175

Arg Pro Glu Ile Leu Arg Leu Met Thr Leu Phe Met Arg Tyr Arg Ser
            180                 185                 190

Ser Ser Val Leu Ser His Glu Glu Val Gly Asp Val Leu Gln Gly Val
        195                 200                 205

Ala Leu Ala Asp Leu Ser Thr Leu Ser Asn Thr Thr Leu Gln Ala Leu
    210                 215                 220

His Gly Phe Phe Gln Gln Leu Gln Ser Met Gly His Leu Ala Asp His
225                 230                 235                 240

Ser Met Ala Gln Thr Leu Gln Ala Ser Leu Glu Gly Leu Pro Pro Ser
                245                 250                 255

Thr Ser Ser Gly Gln Pro Pro Leu Gln Asp Met Leu Cys Leu Gly Gly
            260                 265                 270

Val Ala Val Ser Leu Ser His Ile Arg Asn
        275                 280


<210> 278
<211> 39
<212> PRT
<213> Homo sapiens

<400> 278
Met Ala Phe Gly Gln Glu Val Thr His Leu Thr Lys Thr Ser Trp Leu
```

<211> 122
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (92)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (100)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (109)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (116)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 276

```
Met Leu Ala Leu Thr Leu Ala Lys Ala Asp Ser Pro Arg Thr Ala Leu
 1               5                  10                  15

Leu Cys Ser Ala Trp Leu Leu Thr Ala Ser Phe Ser Ala Gln Gln His
            20                  25                  30

Lys Gly Ser Leu Gln Val His Gln Thr Leu Ser Val Glu Met Asp Gln
        35                  40                  45

Val Leu Lys Ala Leu Ser Phe Pro Lys Lys Lys Ala Ala Leu Leu Ser
    50                  55                  60

Thr Ala Ile Leu Cys Phe Leu Arg Thr Ala Leu Arg Gln Ser Phe Ser
65                  70                  75                  80

Ser Ala Trp Asn Pro Gly Ala Leu Lys Gly Pro Xaa Thr Ala Ala Thr
                85                  90                  95

Lys Asp Thr Xaa Leu Thr Ser Leu Arg Met Ser Lys Xaa Gly Pro Gly
            100                 105                 110

His Trp Ala Xaa Lys Thr Ser Trp Cys Lys
        115                 120
```

<210> 277
<211> 282
<212> PRT
<213> Homo sapiens

<400> 277

```
Met Leu Ala Leu Thr Leu Ala Lys Ala Asp Ser Pro Arg Thr Ala Leu
 1               5                  10                  15
```

<211> 216
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (6)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (18)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 275

```
Cys Phe Pro Trp Gly Xaa Ala Leu Arg Gln Lys Leu Phe Pro Ser Ala
1               5                   10                  15

Leu Xaa Ala Leu Val Pro Ser Gly Ala Gln Pro Leu Pro Ala Thr Lys
            20                  25                  30

Asp Thr Val Leu Ala Pro Leu Arg Met Ser Gln Val Arg Ser Leu Val
        35                  40                  45

Ile Gly Leu Gln Asn Leu Leu Val Gln Lys Asp Pro Leu Leu Ser Gln
    50                  55                  60

Ala Cys Val Gly Cys Leu Glu Ala Leu Leu Asp Tyr Leu Asp Ala Arg
65                  70                  75                  80

Ser Pro Asp Ile Ala Leu His Val Ala Ser Gln Pro Trp Asn Arg Phe
                85                  90                  95

Leu Leu Phe Thr Leu Leu Asp Ala Gly Glu Asn Ser Phe Leu Arg Pro
            100                 105                 110

Glu Ile Leu Arg Leu Met Thr Leu Phe Met Arg Tyr Arg Ser Ser Ser
        115                 120                 125

Val Leu Ser His Glu Glu Val Gly Asp Val Leu Gln Gly Val Ala Leu
    130                 135                 140

Ala Asp Leu Ser Thr Leu Ser Asn Thr Thr Leu Gln Ala Leu His Gly
145                 150                 155                 160

Phe Phe Gln Gln Leu Gln Ser Met Gly His Leu Ala Asp His Ser Met
                165                 170                 175

Ala Gln Thr Leu Gln Ala Ser Leu Glu Gly Leu Pro Pro Ser Thr Ser
            180                 185                 190

Ser Gly Gln Pro Pro Leu Gln Asp Met Leu Cys Leu Gly Gly Val Ala
        195                 200                 205

Val Ser Leu Ser His Ile Arg Asn
    210                 215
```

<210> 276

```
            100                 105                 110

Pro Gly Ala Leu Val Thr Trp Thr Pro Gly
        115                 120



<210> 273
<211> 130
<212> PRT
<213> Homo sapiens

<400> 273
Ser Thr Cys Cys Gly Trp Gly Pro Leu Gly His Ser Arg Val Arg Gly
 1               5                   10                  15

Cys His Cys His Leu Gly His Val Gly Arg His Gln His Phe Val Val
             20                  25                  30

Thr Asn Ser Thr Val Thr Asn Ile Phe Gly Gln Ile Pro Phe Tyr Thr
         35                  40                  45

Ser Arg Gln Leu Leu Val Cys Asn Pro Thr Gly Gln Arg Glu Gly Pro
     50                  55                  60

Val Thr Trp Leu Ser His Cys Pro Ala Pro Gln Met Val Leu Gly Leu
 65                  70                  75                  80

Leu Phe Ser Leu Gly Pro Ala Asn Thr Thr Val Phe Thr Ser Ala His
                 85                  90                  95

Trp Leu Ser Ala Val Val Pro Gly Ser Gln Trp His Val Ser Pro Arg
            100                 105                 110

Ser Ser Leu Ile Pro Gln His Thr Pro Lys Gly Ser Val Ala Asn Thr
        115                 120                 125

Leu Asn
    130



<210> 274
<211> 44
<212> PRT
<213> Homo sapiens

<400> 274
Met Arg Leu Arg Asn Gly Thr Val Ala Thr Ala Leu Ala Phe Ile Thr
 1               5                   10                  15

Ser Phe Leu Thr Leu Ser Trp Tyr Thr Thr Trp Gln Asn Gly Lys Gly
             20                  25                  30

Lys Glu Asn Asp Ser Glu Asn Val His Glu Met Tyr
         35                  40


<210> 275
```

Gly Asn Arg Ala Gly Leu Pro Ala Val Leu
50 55

<210> 271
<211> 58
<212> PRT
<213> Homo sapiens

<400> 271
Met Val Ser Leu Cys Ser Gly Leu Pro Ser Ser Cys Leu Leu Leu Gly
1 5 10 15

Ser Thr Ala Ala Ile Ile Gln Arg Gln Val Cys Leu Phe Gln Gly Ala
20 25 30

Arg Gln Trp Asn Pro Val Ser Glu Phe Leu Arg Ala His His His Cys
35 40 45

Gly Asn Arg Ala Gly Leu Pro Ala Val Leu
50 55

<210> 272
<211> 122
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (19)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (73)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 272
Lys Ala Pro Ser Ser His Pro Gly Leu Thr Cys Val Ser Leu Ser Arg
1 5 10 15

Leu Gln Xaa Ser Leu Ser Leu Cys Phe Pro Ser Gly Pro Cys Trp Ala
20 25 30

Gly Leu Leu Ser Ser Leu Ala Leu Ala Gly Gly Ala Pro Gly Ala Leu
35 40 45

Pro Pro Trp Gln Pro Gly Gln Asp Ser Lys Met Arg Thr Ala Glu Leu
50 55 60

Val Gly Gly Ser His Gly Pro Ala Xaa Gly Pro Gly Glu Ala Glu Pro
65 70 75 80

Glu Pro Thr Ala Val Val Leu Trp Thr Val Asp Pro Glu Gly Gly Leu
85 90 95

Gly Gln Val Pro Ala Glu Gly Pro Gly Gly Leu Cys Val Pro Leu Gly

<211> 64
<212> PRT
<213> Homo sapiens

<400> 268
Met Asp Pro Lys Leu Pro Val Ile Thr Ile Ile Ile Ile Ile Ile Ala
1 5 10 15

Tyr Ala Phe Val Glu Pro Leu Leu Cys Thr Trp Pro Val Thr Gly Thr
20 25 30

Leu Ser Val Thr Gln Met Gln Val Ser His Leu Thr Leu Ala Ser Thr
35 40 45

Leu Arg Asp Gly Phe Tyr Gln His Pro His Phe Thr Asp Glu Glu Asn
50 55 60

<210> 269
<211> 64
<212> PRT
<213> Homo sapiens

<400> 269
Met Asp Pro Lys Leu Pro Val Ile Thr Ile Ile Ile Ile Ile Ile Ala
1 5 10 15

Tyr Ala Phe Val Glu Pro Leu Leu Cys Thr Trp Pro Val Thr Gly Thr
20 25 30

Leu Ser Val Thr Gln Met Gln Val Ser His Leu Thr Leu Ala Ser Thr
35 40 45

Leu Arg Asp Gly Phe Tyr Gln His Pro His Phe Thr Asp Glu Glu Asn
50 55 60

<210> 270
<211> 58
<212> PRT
<213> Homo sapiens

<400> 270
Met Val Ser Leu Cys Ser Gly Leu Pro Ser Ser Cys Leu Leu Leu Gly
1 5 10 15

Ser Thr Ala Ala Ile Ile Gln Arg Gln Val Cys Leu Phe Gln Gly Ala
20 25 30

Arg Gln Trp Asn Pro Val Ser Glu Phe Leu Arg Ala His His His Cys
35 40 45

```
        195                 200                 205

Gly Gln Lys Leu Gly Ser Thr Ala Pro Gln Val Leu Ser Thr Ser Ser
    210                 215                 220

Pro Ala Gln Gln Ala Glu Asn Glu Ala Lys Ala Ser Ser Ser Ile Leu
225                 230                 235                 240

Ile Asp Glu Ser Glu Pro Thr Thr Asn Ile Gln Ile Arg Leu Ala Asp
                245                 250                 255

Gly Gly Arg Leu Val Gln Lys Phe Asn His Ser His Arg Ile Ser Asp
            260                 265                 270

Ile Arg Leu Phe Ile Val Asp Ala Arg Pro Ala Met Ala Ala Thr Ser
        275                 280                 285

Phe Ile Leu Met Thr Thr Phe Pro Asn Lys Glu Leu Ala Asp Glu Ser
    290                 295                 300

Gln Thr Leu Lys Glu Ala Asn Leu Leu Asn Ala Val Ile Val Gln Arg
305                 310                 315                 320

Leu Thr




<210> 266
<211> 61
<212> PRT
<213> Homo sapiens

<400> 266
Met Asn Ala Ser Leu Ile Ser Trp Val Leu Val Leu His Arg Ile Cys
 1                5                  10                  15

Leu Gly Leu Ser Asp Ile Pro Lys Glu Asn Cys Ile Ile Thr Ile Ser
             20                  25                  30

Gly Met Gln Leu Ser His His Gly Gln Ser Leu Gly Lys Trp Ala Glu
         35                  40                  45

Lys Leu His Val Phe Tyr Ser Leu Phe Ser Phe Leu Leu
     50                  55                  60


<210> 267
<211> 4
<212> PRT
<213> Homo sapiens

<400> 267
Pro Asn Ser Pro
 1


<210> 268
```

```
Leu Gly Leu Ser Asp Ile Pro Lys Glu Asn Cys Ile Ile Thr Ile Ser
            20                  25                  30

Gly Met Gln Leu Ser His His Gly Gln Ser Leu Gly Lys Trp Ala Glu
        35                  40                  45

Lys Leu His Val Phe Tyr Ser Leu Phe Ser Phe Leu Leu
    50                  55                  60


<210> 265
<211> 322
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (28)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 265
Arg Ala Pro Arg Arg Thr Gly Pro Ala Ser Phe Ser Ser Arg Pro Ala
1               5                   10                  15

Gly Thr Cys Ser Asp Asn Arg Val Thr Ser Phe Xaa Asp Leu Ile His
            20                  25                  30

Asp Gln Asp Glu Asp Glu Glu Glu Glu Glu Gly Gln Arg Phe Tyr Ala
        35                  40                  45

Gly Gly Ser Glu Arg Ser Gly Gln Gln Ile Val Gly Pro Pro Arg Lys
    50                  55                  60

Lys Ser Pro Asn Glu Leu Val Asp Asp Leu Phe Lys Gly Ala Lys Glu
65                  70                  75                  80

His Gly Ala Val Ala Val Glu Arg Val Thr Lys Ser Pro Gly Glu Thr
                85                  90                  95

Ser Lys Pro Arg Pro Phe Ala Gly Gly Gly Tyr Arg Leu Gly Ala Ala
            100                 105                 110

Pro Glu Glu Glu Ser Ala Tyr Val Ala Gly Glu Lys Arg Gln His Ser
        115                 120                 125

Ser Gln Asp Val His Val Val Leu Lys Leu Trp Lys Ser Gly Phe Ser
    130                 135                 140

Leu Asp Asn Gly Glu Leu Arg Ser Tyr Gln Asp Pro Ser Asn Ala Gln
145                 150                 155                 160

Phe Leu Glu Ser Ile Arg Arg Gly Glu Val Pro Ala Glu Leu Arg Arg
                165                 170                 175

Leu Ala His Gly Gly Gln Val Asn Leu Asp Met Glu Asp His Arg Asp
            180                 185                 190

Glu Asp Phe Val Lys Pro Lys Gly Ala Phe Lys Ala Phe Thr Gly Glu
```

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<220>
<221> SITE
<222> (34)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 261
Met Gly Leu Ile Ala Ala Asp Val Asn Leu Asp Leu Leu Val Gln Val
 1              5                  10                  15

Val Pro Ala Ser Cys Leu His Cys Gly Val Thr Ile Phe Pro Phe Pro
            20                  25                  30

His Xaa Ile His Gln Lys Pro Val Thr Lys Arg Gly Gln Thr Pro Gly
        35                  40                  45

Gln Gly Asn
    50



<210> 262
<211> 51
<212> PRT
<213> Homo sapiens

<400> 262
Met Gly Leu Ile Ala Ala Asp Val Asn Leu Asp Leu Leu Val Gln Val
 1              5                  10                  15

Val Pro Ala Ser Cys Leu His Cys Gly Val Thr Ile Phe Pro Phe Pro
            20                  25                  30

His Phe Ile His Gln Lys Pro Val Thr Lys Arg Gly Gln Thr Pro Gly
        35                  40                  45

Gln Gly Asn
    50



<210> 263
<211> 13
<212> PRT
<213> Homo sapiens

<400> 263
Ser Cys Ile Ser Trp Val Phe Val Met Ile Asn Gly Leu
 1              5                  10



<210> 264
<211> 61
<212> PRT
<213> Homo sapiens

<400> 264
Met Asn Ala Ser Leu Ile Ser Trp Val Leu Val Leu His Arg Ile Cys
 1              5                  10                  15
```

```
<211> 52
<212> PRT
<213> Homo sapiens

<400> 258
Met Gln Arg Leu Gly Lys Ala Pro Gly Thr Trp Gln Ala Ile Ser Lys
 1               5                  10                  15

Cys Trp Leu Leu Leu Leu Leu Ser Leu Pro Phe Ser Gln Ser Ile Ile
             20                  25                  30

Ile Ser Leu Arg Ala Gly Thr Met Ser Tyr Leu Pro Leu Tyr Phe Pro
         35                  40                  45

Gln Tyr Phe Pro
     50



<210> 259
<211> 20
<212> PRT
<213> Homo sapiens

<400> 259
Met Leu Cys Val Leu Leu Ala Val Ala Phe Gln Ser Ser Pro Ile Pro
 1               5                  10                  15

Gly Ala Ala Ala
             20



<210> 260
<211> 69
<212> PRT
<213> Homo sapiens

<400> 260
Met Ala Leu Phe Arg Pro Ile Leu Leu Pro Ala Pro Gly Ala Trp Trp
 1               5                  10                  15

Trp Pro Cys His His Ala Leu Cys Pro Ser Gly Cys Gly Phe Pro Glu
             20                  25                  30

Gln Pro His Ser Arg Cys Ser Ser Leu Glu Leu Gln Ser Ala Ser Arg
         35                  40                  45

Gln Cys Trp Leu Gln Trp Leu Gly Asp Ile Arg Pro Leu Leu Leu Gln
     50                  55                  60

Gly Arg Glu Val Thr
 65



<210> 261
<211> 51
<212> PRT
<213> Homo sapiens
```

```
<210> 256
<211> 86
<212> PRT
<213> Homo sapiens

<400> 256
Ser Leu Lys His Phe Trp Ser Gln Gly Phe Trp Ile Lys Asp Thr Gln
 1               5                  10                  15

Cys Ala Thr Cys Arg Met Val Val Ala Arg Trp Glu Glu Arg Met Glu
            20                  25                  30

Ser Tyr Cys Leu Met Ile Gln Cys Phe Arg Leu Gly Arg Trp Lys Val
        35                  40                  45

Leu Glu Met Cys Asp Gly Tyr Gly Cys Ala Thr Met Gly Arg Tyr Leu
    50                  55                  60

Val Leu Leu Asn Cys Ala His Leu Lys Met Val Lys Met Ile Asn Phe
65                  70                  75                  80

Val Tyr Val Leu Lys Gln
                85


<210> 257
<211> 52
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (36)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (37)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 257
Met Gln Arg Leu Gly Lys Ala Pro Gly Thr Trp Gln Ala Ile Ser Lys
 1               5                  10                  15

Cys Trp Leu Leu Leu Leu Leu Ser Leu Pro Phe Ser Gln Ser Ile Ile
            20                  25                  30

Ile Ser Leu Xaa Xaa Gly Thr Met Ser Tyr Leu Pro Leu Tyr Phe Pro
        35                  40                  45

Gln Tyr Phe Pro
    50


<210> 258
```

<213> Homo sapiens

<400> 253
Met Ile Ile Ala Asn Ile Phe Met Asn Pro Leu Leu Cys Ala Gly Tyr
1 5 10 15

Leu Phe Cys Phe Ala Tyr Thr Leu Ile His Leu Ile Leu Leu Thr Thr
20 25 30

Ser Glu Val Cys Ser Ile Thr Ala Pro Phe Phe Thr Ala Val Leu Gln
35 40 45

Ser Ser Ala Cys Pro Ser Thr His Trp Pro Glu
50 55

<210> 254
<211> 67
<212> PRT
<213> Homo sapiens

<400> 254
Met Leu Phe Leu Ile Tyr Val Ser Leu Leu Met Leu Leu Phe Ser Leu
1 5 10 15

Cys Leu Ser Leu Pro His Leu Gln Pro Pro Ser Leu Arg Glu Ile Leu
20 25 30

Ile Pro Val His Ser Leu Arg Phe Ser Leu Val Ser Pro Leu His Gly
35 40 45

Ser Leu Ala Ser Ser Leu Leu Leu Gln His Cys Gly Thr Leu Arg Gln
50 55 60

Val Phe Phe
65

<210> 255
<211> 67
<212> PRT
<213> Homo sapiens

<400> 255
Met Leu Phe Leu Ile Tyr Val Ser Leu Leu Met Leu Leu Phe Ser Leu
1 5 10 15

Cys Leu Ser Leu Pro His Leu Gln Pro Pro Ser Leu Arg Glu Ile Leu
20 25 30

Ile Pro Val His Ser Leu Arg Phe Ser Leu Val Ser Pro Leu His Gly
35 40 45

Ser Leu Ala Ser Ser Leu Leu Leu Gln His Cys Gly Thr Leu Arg Gln
50 55 60

Val Phe Phe
65

```
Ala Glu Gly Val Ala Arg Trp Arg Ala Trp Leu Met Tyr Ala Gly Val
     50                  55                  60

Arg Leu Gly Gly Ala Lys Gln Tyr Lys Thr Pro Thr Ser Ser Gly Phe
 65                  70                  75                  80

Ser Ser Ser Gly Asp
                 85



<210> 251
<211> 85
<212> PRT
<213> Homo sapiens

<400> 251
Met Leu His Asn Ala Phe Leu Phe Val Leu Phe Ala Leu Val Ser Gly
  1               5                  10                  15

Tyr Gly Asn Tyr Ala Ala Thr Ala His Asp Trp Leu Tyr Glu Asn Gly
             20                  25                  30

Gln Leu Ser Arg Lys Glu Ala Asp Ala Val Leu Tyr Arg Ala Leu Arg
         35                  40                  45

Ala Glu Gly Val Ala Arg Trp Arg Ala Trp Leu Met Tyr Ala Gly Val
     50                  55                  60

Arg Leu Gly Gly Ala Lys Gln Tyr Lys Thr Pro Thr Ser Ser Gly Phe
 65                  70                  75                  80

Ser Ser Ser Gly Asp
                 85



<210> 252
<211> 59
<212> PRT
<213> Homo sapiens

<400> 252
Met Ile Ile Ala Asn Ile Phe Met Asn Pro Leu Leu Cys Ala Gly Tyr
  1               5                  10                  15

Leu Phe Cys Phe Ala Tyr Thr Leu Ile His Leu Ile Leu Leu Thr Thr
             20                  25                  30

Ser Glu Val Cys Ser Ile Thr Ala Pro Phe Phe Thr Ala Val Leu Gln
         35                  40                  45

Ser Ser Ala Cys Pro Ser Thr His Trp Pro Glu
     50                  55


<210> 253
<211> 59
<212> PRT
```

```
Leu Ile Leu Asp Ile Ala Gly Thr Asn Phe Ser
 65                 70                  75


<210> 248
<211> 55
<212> PRT
<213> Homo sapiens

<400> 248
Met Ile Tyr Phe Ala Leu Leu Leu Ala Ser Leu Phe Phe Leu Leu Lys
  1               5                  10                  15

Val Lys Ser His Phe Gly Cys Lys Asn Val Thr Thr Thr Ser Ala Arg
             20                  25                  30

Ile Phe Leu Lys Pro Leu Cys Thr Pro Lys Ser Ile Phe Pro Leu Ser
         35                  40                  45

Arg Tyr Gly Arg Met Ser Ser
     50                  55


<210> 249
<211> 55
<212> PRT
<213> Homo sapiens

<400> 249
Met Ile Tyr Phe Ala Leu Leu Leu Ala Ser Leu Phe Phe Leu Leu Lys
  1               5                  10                  15

Val Lys Ser His Phe Gly Cys Lys Asn Val Thr Thr Thr Ser Ala Arg
             20                  25                  30

Ile Phe Leu Lys Pro Leu Cys Thr Pro Lys Ser Ile Phe Pro Leu Ser
         35                  40                  45

Arg Tyr Gly Arg Met Ser Ser
     50                  55


<210> 250
<211> 85
<212> PRT
<213> Homo sapiens

<400> 250
Met Leu His Asn Ala Phe Leu Phe Val Leu Phe Ala Leu Val Ser Gly
  1               5                  10                  15

Tyr Gly Asn Tyr Ala Ala Thr Ala His Asp Trp Leu Tyr Glu Asn Gly
             20                  25                  30

Gln Leu Ser Arg Lys Glu Ala Asp Ala Val Leu Tyr Arg Ala Leu Arg
         35                  40                  45
```

Ser Lys Ile Tyr Thr Ala Val Ser Asn Thr Phe Ser Thr Ala Ser Asp
20 25 30

Ser Trp Leu Cys Val Lys Thr Pro Arg Gly Tyr His Trp Phe Met Ser
35 40 45

Leu Glu Thr Pro Asp Ile Glu Gln
50 55

<210> 245
<211> 10
<212> PRT
<213> Homo sapiens

<400> 245
Val Leu Leu Phe Leu Ser Leu Leu Thr Ser
1 5 10

<210> 246
<211> 56
<212> PRT
<213> Homo sapiens

<400> 246
Met Leu Ile Phe Leu Lys Cys Leu Thr Val Ser Tyr Ala Lys Tyr Ser
1 5 10 15

Ser Lys Ile Tyr Thr Ala Val Ser Asn Thr Phe Ser Thr Ala Ser Asp
20 25 30

Ser Trp Leu Cys Val Lys Thr Pro Arg Gly Tyr His Trp Phe Met Ser
35 40 45

Leu Glu Thr Pro Asp Ile Glu Gln
50 55

<210> 247
<211> 75
<212> PRT
<213> Homo sapiens

<400> 247
Glu Asp Met Pro Arg Arg Lys Glu Glu Leu Thr Asp Tyr Gln Lys Lys
1 5 10 15

Lys Val Ile Leu Gln Asn Leu Lys His Ser Leu Phe Leu Ser Leu Leu
20 25 30

Ser His Tyr Phe Tyr Ser Asn Pro Leu Glu Tyr Leu His Phe Ala Ser
35 40 45

Glu Gln Arg Asp Lys Phe Phe Ser His His Val Cys Thr Gly Val Val
50 55 60

```
 1               5                   10                  15

Leu Gly Met Phe Phe Pro His Ser Leu Ser Gly Pro Phe Pro Ser His
            20                  25                  30

Leu Arg Arg Ala Ser Ser Ser Arg Lys Pro Leu Val Lys Pro Pro Arg
        35                  40                  45

Ala Arg Gln Tyr Pro Pro Leu Ala Ser Ser Gly Tyr Arg Gly Arg Ile
    50                  55                  60




<210> 243
<211> 61
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (21)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (27)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (31)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 243
Phe Asn Phe Lys Phe Ala His Arg Pro Ser Asn Pro Leu Val Asn Leu
 1               5                   10                  15

Thr Val Ser Pro Xaa Arg Asn Ser Ser Leu Xaa Thr Arg Lys Xaa Pro
            20                  25                  30

Cys Arg Glu Ser Lys Lys Phe Asn Thr His Ser Arg Pro Lys Ser Ser
        35                  40                  45

His Gln Leu Arg Lys Arg Ser Ser Ser Thr Pro Thr Thr
    50                  55                  60



<210> 244
<211> 56
<212> PRT
<213> Homo sapiens

<400> 244
Met Leu Ile Phe Leu Lys Cys Leu Thr Val Ser Tyr Ala Lys Tyr Ser
 1               5                   10                  15
```

```
<400> 239
Val His Ala Xaa Thr Pro Phe Ala Gly Xaa Cys Phe Asp Pro Val Ser
  1               5                  10                  15

Leu Tyr Trp Cys Tyr Xaa Asn Pro Gly Thr His Cys Tyr Pro Thr Leu
            20                  25                  30

Arg Gly Xaa Glu Gln Arg Xaa Pro Ser Xaa Arg Ser His Ile Val Leu
        35                  40                  45

Arg Ser
    50



<210> 240
<211> 64
<212> PRT
<213> Homo sapiens

<400> 240
Met Val Ser Pro Leu Ile Ser Ala Leu Phe His Val Pro Phe Leu Trp
  1               5                  10                  15

Leu Gly Met Phe Phe Pro His Ser Leu Ser Gly Pro Phe Pro Ser His
            20                  25                  30

Leu Arg Arg Ala Ser Ser Ser Arg Lys Pro Leu Val Lys Pro Pro Arg
        35                  40                  45

Ala Arg Gln Tyr Pro Pro Leu Ala Ser Ser Gly Tyr Arg Gly Arg Ile
    50                  55                  60



<210> 241
<211> 26
<212> PRT
<213> Homo sapiens

<400> 241
Met Ser Phe Pro His Ala Ser Thr Leu Pro Phe His Lys Leu Ser Asp
  1               5                  10                  15

Leu Gln His Thr Leu Pro Asn His Gln Gly
            20                  25



<210> 242
<211> 64
<212> PRT
<213> Homo sapiens

<400> 242
Met Val Ser Pro Leu Ile Ser Ala Leu Phe His Val Pro Phe Leu Trp
```

```
Ala Ser Val Gly Asp Thr Val Thr Ile Thr Cys Gln Ala Ser Asp Asp
         35                  40                  45

Ile Ser Lys Asp Leu Asn Trp Phe Gln Gln Lys Pro Gly Thr Ala Pro
     50                  55                  60

Lys Leu Leu Ile Phe Asp Ala Ser Asn Leu Glu Thr Gly Val Pro Ser
 65                  70                  75                  80

Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Phe Thr Ile Ser
                 85                  90                  95

Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Asp
            100                 105                 110

Asn Pro Pro Ser Leu Ser Ala Glu Gly Pro Lys Trp Arg Ser Asn Glu
        115                 120                 125

Leu Trp Leu His His Leu Ser Ser Ser Ser Arg His Leu Met Ser Ser
    130                 135                 140
```

<210> 239
<211> 50
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (4)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (10)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (22)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (35)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (39)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (42)
<223> Xaa equals any of the naturally occurring L-amino acids

```
<400> 237
Met Glu Xaa Pro Ala Gln Leu Leu Phe Leu Leu Leu Leu Trp Leu Pro
1               5                   10                  15

Asp Thr Thr Gly Glu Ile Val Leu Thr Gln Ser Pro Xaa Thr Leu Ser
            20                  25                  30

Leu Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser
        35                  40                  45

Val Ser Ser Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro
    50                  55                  60

Arg Leu Leu Ile Tyr Xaa Ala Ser Xaa Arg Ala Thr Gly Ile Pro Xaa
65                  70                  75                  80

Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser
                85                  90                  95

Xaa Leu Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Arg Xaa
            100                 105                 110

Asn Trp Pro Pro Xaa Tyr Thr Phe Gly Xaa Gly Thr Lys Val Glu Ile
        115                 120                 125

Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp
    130                 135                 140

Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn
145                 150                 155                 160

Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu
                165                 170                 175

Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp
            180                 185                 190

Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr
        195                 200                 205

Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser
    210                 215                 220

Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
225                 230                 235


<210> 238
<211> 144
<212> PRT
<213> Homo sapiens

<400> 238
Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp Leu Ser
1               5                   10                  15

Gly Ala Lys Cys Asp Thr Gln Met Thr Gln Ser Pro Ser Ser Leu Ser
            20                  25                  30
```

```
  1               5                   10                  15

Ala Ser Thr Tyr Gly Arg Ala Ser Ile Asp Phe Thr Cys Phe Pro Asn
             20                  25                  30

His Tyr Gly Ile Ser Asn Gln Tyr
         35                  40
```

<210> 237
<211> 236
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (3)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (29)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (70)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (73)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (80)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (97)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (112)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (117)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (122)
<223> Xaa equals any of the naturally occurring L-amino acids

```
<210> 235
<211> 160
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (55)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 235
Phe Phe Asp Ser Ile Gly Ala Leu Val Pro Gln Phe Leu Ala Asn Asp
1               5                   10                  15

Asp Glu Leu Ser Ser His Thr Tyr Gly Leu Leu Val Asn Lys Asn Asn
            20                  25                  30

His Leu Gly His Leu Ala Val Cys Ile Ser Gln Cys Ile Trp Gly Leu
        35                  40                  45

Leu Ser Pro Cys Glu Leu Xaa Gly Ile Ser Leu Gly Ser Ile Ile Leu
    50                  55                  60

Phe Cys Pro Thr Pro Cys Ser Met Gln Thr Pro Ser Pro Ala Cys Trp
65                  70                  75                  80

Ser Pro Ser Gly Asn Pro Gly Leu Ala His Thr Leu Cys Trp Arg Ala
                85                  90                  95

Cys Thr Leu Met Pro Leu Leu Arg Leu Gly Pro Tyr Leu Val Thr Leu
            100                 105                 110

Phe Ala Leu Pro Ser Glu Thr Glu Gln Leu Ala Pro Ser Ala Leu Val
        115                 120                 125

Val Pro Cys Glu Ala Leu Leu Leu Ser Gly Phe Leu His Arg Asp Pro
    130                 135                 140

Cys Arg Leu Pro Ala Asp Met Gln Asp Ala Leu Leu Ser Val Asp Val
145                 150                 155                 160




<210> 236
<211> 40
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (15)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 236
Met Ala Tyr Ser Pro Leu Leu Ile Ser Leu Val Leu Ala Phe Xaa Pro
```

```
<210> 232
<211> 105
<212> PRT
<213> Homo sapiens

<400> 232
Met Cys Leu Thr Thr Ala Gly Phe Cys Leu Leu Ala Ile His Ser Phe
 1               5                   10                  15

Ala Leu Gly Val Gln Ser Arg Gln Gln His Ser Val Pro Ile Val Phe
             20                  25                  30

Glu Val Leu Pro Leu Arg Val Pro Glu Pro Ser Arg Val Thr Gly Cys
         35                  40                  45

Ser Ser Phe Phe Gln Thr Lys Val Leu Cys Lys Gln His Leu Leu Gly
     50                  55                  60

Pro Arg Ala Ser Val Asn Ile Val Leu Ala Cys Leu Ala Cys Cys His
 65                  70                  75                  80

Arg Lys Gly Leu Cys Val His Ile Pro Ala Asn Leu Met Ser Pro Ser
                 85                  90                  95

Ser Ala Lys Leu Tyr His Ser Leu His
            100                 105



<210> 233
<211> 5
<212> PRT
<213> Homo sapiens

<400> 233
Tyr Ser Pro Leu Cys
 1               5



<210> 234
<211> 40
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (15)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 234
Met Ala Tyr Ser Pro Leu Leu Ile Ser Leu Val Leu Ala Phe Xaa Pro
 1               5                   10                  15

Ala Ser Thr Tyr Gly Arg Ala Ser Ile Asp Phe Thr Cys Phe Pro Asn
             20                  25                  30

His Tyr Gly Ile Ser Asn Gln Tyr
         35                  40
```

```
Pro Arg Asp His Leu Gln His Asp His Leu Asp Ser Thr His Glu Thr
            100                 105                 110

Thr Lys Tyr Leu Ser Glu Ala Trp Pro Lys Asp Gly Gly Asn Gly Thr
        115                 120                 125

Ser Pro Asp Phe Ser His Ser Lys Glu Trp Phe His Asp Arg Asp Leu
    130                 135                 140

Gly Pro Asn Thr Thr Ile Lys Leu Ser
145                 150



<210> 230
<211> 105
<212> PRT
<213> Homo sapiens

<400> 230
Met Cys Leu Thr Thr Ala Gly Phe Cys Leu Leu Ala Ile His Ser Phe
 1               5                   10                  15

Ala Leu Gly Val Gln Ser Arg Gln Gln His Ser Val Pro Ile Val Phe
            20                  25                  30

Glu Val Leu Pro Leu Arg Val Pro Glu Pro Ser Arg Val Thr Gly Cys
        35                  40                  45

Ser Ser Phe Phe Gln Thr Lys Val Leu Cys Lys Gln His Leu Leu Gly
    50                  55                  60

Pro Arg Ala Ser Val Asn Ile Val Leu Ala Cys Leu Ala Cys Cys His
65                  70                  75                  80

Arg Lys Gly Leu Cys Val His Ile Pro Ala Asn Leu Met Ser Pro Ser
                85                  90                  95

Ser Ala Lys Leu Tyr His Ser Leu His
            100                 105



<210> 231
<211> 37
<212> PRT
<213> Homo sapiens

<400> 231
Phe Cys Leu Ile Trp Ser Ala Tyr Leu Leu Met Cys Leu Phe Leu Phe
 1               5                   10                  15

Cys Leu Phe Tyr Phe Tyr Phe Ser Val Asn Ala Arg Thr Asp Leu His
            20                  25                  30

Val Lys Ser Gly Leu
        35
```

```
<222> (98)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 228
Met Ala Ala Thr Gln Thr Gly Thr Cys Leu Met Val Ala Ala Leu Cys
 1               5                   10                  15

Phe Val Leu Val Leu Gly Ser Leu Val Pro Cys Leu Pro Glu Phe Ser
             20                  25                  30

Ser Gly Ser Gln Thr Val Lys Glu Asp Pro Leu Ala Ala Asp Gly Val
         35                  40                  45

Tyr Thr Ala Ser Gln Met Pro Ser Arg Ser Leu Leu Phe Tyr Asp Asp
     50                  55                  60

Gly Ala Gly Leu Trp Glu Asp Gly Arg Ser Thr Leu Leu Pro Met Glu
 65                  70                  75                  80

Pro Pro Asp Gly Trp Glu Ile Asn Pro Gly Gly Pro Ala Glu Gln Arg
                 85                  90                  95

Pro Xaa Asp His Leu Gln His Asp His Leu Asp Ser Thr His Glu Thr
            100                 105                 110

Thr Lys Tyr Leu Ser Glu Ala Trp Pro Lys Asp Gly Gly Asn Gly Thr
        115                 120                 125

Ser Pro Asp Phe Ser His Ser Lys Glu Trp Phe His Asp Arg Asp Leu
    130                 135                 140

Gly Pro Asn Thr Thr Ile Lys Leu Ser
145                 150



<210> 229
<211> 153
<212> PRT
<213> Homo sapiens

<400> 229
Met Ala Ala Thr Gln Thr Gly Thr Cys Leu Met Val Ala Ala Leu Cys
 1               5                   10                  15

Phe Val Leu Val Leu Gly Ser Leu Val Pro Cys Leu Pro Glu Phe Ser
             20                  25                  30

Ser Gly Ser Gln Thr Val Lys Glu Asp Pro Leu Ala Ala Asp Gly Val
         35                  40                  45

Tyr Thr Ala Ser Gln Met Pro Ser Arg Ser Leu Leu Phe Tyr Asp Asp
     50                  55                  60

Gly Ala Gly Leu Trp Glu Asp Gly Arg Ser Thr Leu Leu Pro Met Glu
 65                  70                  75                  80

Pro Pro Asp Gly Trp Glu Ile Asn Pro Gly Gly Pro Ala Glu Gln Arg
                 85                  90                  95
```

Gln Gln Thr Leu Val Leu Val Tyr Phe Cys Arg
35 40

<210> 225
<211> 27
<212> PRT
<213> Homo sapiens

<400> 225
Pro His Cys Arg Trp Pro Gly Leu Tyr Arg Gln Leu Gly Arg Arg Arg
1 5 10 15

Arg Ser Thr Ala Leu Leu Arg Cys His Asn Val
20 25

<210> 226
<211> 37
<212> PRT
<213> Homo sapiens

<400> 226
Met Arg Lys Arg Arg Pro Tyr Asn Arg Trp Thr Gly Cys Trp Leu Arg
1 5 10 15

Leu Ala Val Ser Cys Arg Trp Ala Val Ala Ile Ser Ala Ser Pro Trp
20 25 30

Leu Arg Leu Thr Ser
35

<210> 227
<211> 37
<212> PRT
<213> Homo sapiens

<400> 227
Met Arg Lys Arg Arg Pro Tyr Asn Arg Trp Thr Gly Cys Trp Leu Arg
1 5 10 15

Leu Ala Val Ser Cys Arg Trp Ala Val Ala Ile Ser Ala Ser Pro Trp
20 25 30

Leu Arg Leu Thr Ser
35

<210> 228
<211> 153
<212> PRT
<213> Homo sapiens

<220>
<221> SITE

```
<400> 222
Met Cys Arg Thr Gln Phe His Leu Phe Trp Phe Ile Val Thr Glu Leu
 1               5                   10                  15

Ser Pro Val Ile Trp Ala Lys Ala Asn Gln Lys Leu Ser Cys Leu Ser
             20                  25                  30

Gln Gln Thr Leu Val Leu Val Tyr Phe Cys Arg
         35                  40



<210> 223
<211> 84
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (36)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (37)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 223
Phe Ser Ile Phe Lys Asn His Ile Ser Leu Cys Trp Leu Ile Ile Ile
 1               5                   10                  15

Asn Phe Lys His Ser Phe Leu Gln Ser Gly Phe Ser Glu Phe Phe Phe
             20                  25                  30

Phe Lys Gln Xaa Xaa His Ser Phe Phe Leu Val Thr Ser Lys Gly Gly
         35                  40                  45

Thr Gly Val Gly Gly Lys Glu Cys Leu Lys Met Lys Ser Leu Asp Ile
     50                  55                  60

Glu Gly Pro Arg Arg Thr Gly Tyr Ala Lys Ile Ile Ser Asn Ser Ser
 65                  70                  75                  80

Thr Ile Leu Glu



<210> 224
<211> 43
<212> PRT
<213> Homo sapiens

<400> 224
Met Cys Arg Thr Gln Phe His Leu Phe Trp Phe Ile Val Thr Glu Leu
 1               5                   10                  15

Ser Pro Val Ile Trp Ala Lys Ala Asn Gln Lys Leu Ser Cys Leu Ser
             20                  25                  30
```

```
Arg Met Arg Ala Cys Arg Thr Ile Ser Pro Ala Ser Pro Met Glu Leu
     50                  55                  60

Lys Met Phe Ser Val Thr Val Arg Met Val Ser Val Ala Trp Ser
 65                  70                  75



<210> 220
<211> 72
<212> PRT
<213> Homo sapiens

<400> 220
Met Gly Thr Leu Met Val Leu Thr Arg Leu Ala Val Leu Leu Ala Thr
  1               5                  10                  15

Ser Leu Ala Asp Cys Thr Asn Trp Arg Leu Ala Val Gly Leu Val Val
             20                  25                  30

Arg Ala Glu Ala Arg Arg Gln Leu Leu His Ser Ala Glu Val Cys Leu
         35                  40                  45

Ala Thr Met Val Ala Ala Glu Ser Thr Trp Ala Trp Val Gln Pro Gly
     50                  55                  60

Ser Pro Lys Leu Trp Gln Ala Ile
 65                  70



<210> 221
<211> 72
<212> PRT
<213> Homo sapiens

<400> 221
Met Gly Thr Leu Met Val Leu Thr Arg Leu Ala Val Leu Leu Ala Thr
  1               5                  10                  15

Ser Leu Ala Asp Cys Thr Asn Trp Arg Leu Ala Val Gly Leu Val Val
             20                  25                  30

Arg Ala Glu Ala Arg Arg Gln Leu Leu His Ser Ala Glu Val Cys Leu
         35                  40                  45

Ala Thr Met Val Ala Ala Glu Ser Thr Trp Ala Trp Val Gln Pro Gly
     50                  55                  60

Ser Pro Lys Leu Trp Gln Ala Ile
 65                  70



<210> 222
<211> 43
<212> PRT
<213> Homo sapiens
```

```
Asn Arg Tyr Pro Lys Gly Ala Ile Phe Leu Phe Phe Ala Gly Arg Ile
         35                  40                  45

Glu Val Ile Lys Gly Asn Ile Asp Ala Ala Ile Arg Xaa Phe Glu Glu
     50                  55                  60

Cys Cys
 65



<210> 217
<211> 43
<212> PRT
<213> Homo sapiens

<400> 217
Met Tyr Lys Ile Thr Tyr Arg Val Cys Phe Leu Cys Gln Pro Leu Met
  1               5                  10                  15

Val Gly Leu Gly Cys Ile Gly Ser Ile Ala Ile Val Leu Leu Leu Leu
             20                  25                  30

Leu Leu Val Pro His Val Cys Pro Lys Ile Leu
         35                  40



<210> 218
<211> 43
<212> PRT
<213> Homo sapiens

<400> 218
Met Tyr Lys Ile Thr Tyr Arg Val Cys Phe Leu Cys Gln Pro Leu Met
  1               5                  10                  15

Val Gly Leu Gly Cys Ile Gly Ser Ile Ala Ile Val Leu Leu Leu Leu
             20                  25                  30

Leu Leu Val Pro His Val Cys Pro Lys Ile Leu
         35                  40



<210> 219
<211> 79
<212> PRT
<213> Homo sapiens

<400> 219
Ala Pro Leu Ala Ala Ser Thr Ile Leu Ala Val Ala Ser Ala Arg Ile
  1               5                  10                  15

Leu Ala Ala Leu Lys Ser Leu Arg Glu Phe Ser Arg Ser Leu Ser Pro
             20                  25                  30

Ser Ala Ser Ala Leu Met Ala Leu Thr Arg Ser Asp Val Ala Trp Ala
         35                  40                  45
```

```
<220>
<221> SITE
<222> (18)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (61)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 215
Met Leu Leu Leu Cys Tyr His Xaa Phe Leu Xaa Phe Val Leu Gly Thr
  1               5                  10                  15

Gly Xaa Val Asn Ile Glu Glu Ala Glu Lys Leu Leu Lys Pro Tyr Leu
             20                  25                  30

Asn Arg Tyr Pro Lys Gly Ala Ile Phe Leu Phe Phe Ala Gly Arg Ile
         35                  40                  45

Glu Val Ile Lys Gly Asn Ile Asp Ala Ala Ile Arg Xaa Phe Glu Glu
     50                  55                  60

Cys Cys
 65



<210> 216
<211> 66
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (8)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (11)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (18)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (61)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 216
Met Leu Leu Leu Cys Tyr His Xaa Phe Leu Xaa Phe Val Leu Gly Thr
  1               5                  10                  15

Gly Xaa Val Asn Ile Glu Glu Ala Glu Lys Leu Leu Lys Pro Tyr Leu
             20                  25                  30
```

```
Gln Leu Tyr Ala Leu Cys Asn His Ser Gly Ser Val His Tyr Gly His
                405                 410                 415

Tyr Thr Ala Leu Cys Arg Cys Gln Thr Gly Trp His Val Tyr Asn Asp
            420                 425                 430

Ser Arg Val Ser Pro Val Ser Glu Asn Gln Val Ala Ser Ser Glu Gly
        435                 440                 445

Tyr Val Leu Phe Tyr Gln Leu Met Gln Glu Pro Pro Arg Cys Leu
    450                 455                 460



<210> 213
<211> 53
<212> PRT
<213> Homo sapiens

<400> 213
Lys Ile Glu Leu Met Val Cys Thr Lys Ser Leu Val Tyr Val Leu Val
 1               5                   10                  15

Phe Gln Asn Asn Phe Tyr Ile Asn Ile Tyr Ile Val Lys Lys Phe Phe
             20                  25                  30

Leu Ile Phe Gly Trp Asp Ile Arg Lys Tyr Leu Tyr Tyr Thr Leu Ser
         35                  40                  45

Tyr Tyr Asn Gly Thr
     50



<210> 214
<211> 9
<212> PRT
<213> Homo sapiens

<400> 214
Leu Leu Ser Cys Phe Tyr Phe Phe Leu
 1               5



<210> 215
<211> 66
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (8)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (11)
<223> Xaa equals any of the naturally occurring L-amino acids
```

```
Phe His Met Ile Ser Ala Arg Ser Ser Glu Pro Phe Tyr Ser Asp Asp
                 85                  90                  95

Lys Met Ala His His Thr Leu Leu Leu Gly Ser Gly His Val Gly Leu
            100                 105                 110

Arg Asn Leu Gly Asn Thr Cys Phe Leu Asn Ala Val Leu Gln Cys Leu
        115                 120                 125

Ser Ser Thr Arg Pro Leu Arg Asp Phe Cys Leu Arg Arg Asp Phe Arg
    130                 135                 140

Gln Glu Val Pro Gly Gly Gly Arg Ala Gln Glu Leu Thr Glu Ala Phe
145                 150                 155                 160

Ala Asp Val Ile Gly Ala Leu Trp His Pro Asp Ser Cys Glu Ala Val
                165                 170                 175

Asn Pro Thr Arg Phe Arg Ala Val Phe Gln Lys Tyr Val Pro Ser Phe
            180                 185                 190

Ser Gly Tyr Ser Gln Leu Asp Ala Gln Glu Phe Leu Lys Leu Leu Met
        195                 200                 205

Glu Arg Leu His Leu Glu Ile Asn Arg Arg Asp Arg Arg Ala Pro Pro
    210                 215                 220

Ile Leu Ala Asn Gly Pro Val Pro Ser Pro Pro Arg Arg Gly Gly Ala
225                 230                 235                 240

Leu Leu Glu Glu Pro Glu Leu Ser Asp Asp Asp Arg Ala Asn Leu Met
                245                 250                 255

Trp Lys Arg Tyr Leu Glu Arg Glu Asp Ser Lys Ile Val Asp Leu Phe
            260                 265                 270

Val Gly Gln Leu Lys Ser Cys Leu Lys Cys Gln Ala Cys Gly Tyr Arg
        275                 280                 285

Ser Thr Thr Phe Glu Val Phe Cys Asp Leu Ser Leu Pro Ile Pro Lys
    290                 295                 300

Lys Gly Phe Ala Gly Gly Lys Val Ser Leu Arg Asp Cys Phe Asn Leu
305                 310                 315                 320

Phe Thr Lys Glu Glu Glu Leu Glu Ser Glu Asn Ala Pro Val Cys Asp
                325                 330                 335

Arg Cys Arg Gln Lys Thr Arg Ser Thr Lys Lys Leu Thr Val Gln Arg
            340                 345                 350

Phe Pro Arg Ile Leu Val Leu His Leu Asn Arg Phe Ser Ala Ser Arg
        355                 360                 365

Gly Ser Ile Lys Lys Ser Ser Val Gly Val Asp Phe Pro Leu Gln Arg
    370                 375                 380

Leu Ser Leu Gly Asp Phe Ala Ser Asp Lys Ala Gly Ser Pro Val Tyr
385                 390                 395                 400
```

```
    290                 295                 300

Phe Leu Lys Leu Leu Met Glu Arg Leu His Leu Glu Ile Asn Arg Arg
305                 310                 315                 320

Xaa Arg Arg Ala Pro Pro Ile Leu Ala Asn Gly Pro Val Pro Ser Pro
                325                 330                 335

Pro Arg Arg Gly Gly Ala Leu Leu Glu Glu Pro Glu Leu Ser Asp Asp
            340                 345                 350

Asp Arg Ala Asn Leu Met Trp Lys Arg Tyr Leu Glu Arg Glu Asp Ser
        355                 360                 365

Lys Ile Val Asp Leu Phe Val Gly Gln Leu Lys Ser Cys Leu Lys Cys
    370                 375                 380

Gln Ala Cys Gly Tyr Arg Ser Thr Thr Phe Glu Val Phe Cys Asp Leu
385                 390                 395                 400

Ser Leu Pro Ile Pro Lys Lys Gly Phe Ala Gly Gly Lys Val Ser Leu
                405                 410                 415

Arg Asp Cys Phe Asn Leu Phe Thr Lys Glu Glu Glu Leu Glu Ser Glu
            420                 425                 430

Asn Ala Pro Val Cys Asp Arg Cys Arg Gln Lys Thr Arg Ser Thr Lys
        435                 440                 445

Lys Leu Thr Val Gln Arg Phe Pro Arg Ile Leu Val Leu His Leu Asn
    450                 455                 460

Arg Phe Ser Ala Ser Arg Gly Ser Ile Lys Lys Ser Ser Val Gly Val
465                 470                 475                 480

Asp Phe Ser Thr Ala Ala Thr Glu Pro
                485


<210> 212
<211> 463
<212> PRT
<213> Homo sapiens

<400> 212
Ala Arg Gly Thr Asn Leu Ala Arg Ser Lys Ser Val Ser Ser Gly Asp
 1               5                   10                  15

Leu Arg Pro Met Gly Ile Ala Leu Gly Gly His Arg Gly Thr Gly Glu
             20                  25                  30

Leu Gly Ala Ala Leu Ser Arg Leu Ala Leu Arg Pro Glu Pro Pro Thr
         35                  40                  45

Leu Arg Arg Ser Thr Ser Leu Arg Arg Leu Gly Gly Phe Pro Gly Pro
     50                  55                  60

Pro Thr Leu Phe Ser Ile Arg Thr Glu Pro Pro Ala Ser His Gly Ser
 65                  70                  75                  80
```

```
<221> SITE
<222> (321)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 211
Met Pro Gln Ala Ser Glu His Arg Leu Gly Arg Thr Arg Glu Pro Pro
1               5                   10                  15

Val Asn Ile Gln Pro Arg Val Gly Ser Lys Leu Pro Phe Ala Pro Arg
            20                  25                  30

Ala Arg Ser Lys Glu Arg Arg Asn Pro Ala Ser Gly Pro Asn Pro Met
        35                  40                  45

Leu Arg Pro Leu Pro Pro Arg Pro Gly Leu Pro Asp Glu Arg Leu Lys
    50                  55                  60

Lys Leu Glu Leu Gly Arg Gly Arg Thr Ser Gly Pro Arg Pro Xaa Gly
65                  70                  75                  80

Pro Leu Arg Ala Asp His Gly Val Pro Leu Pro Gly Ser Pro Pro Pro
                85                  90                  95

Thr Val Ala Leu Pro Leu Pro Ser Arg Thr Asn Leu Ala Arg Ser Lys
            100                 105                 110

Ser Val Ser Ser Gly Asp Leu Arg Pro Met Gly Ile Ala Leu Gly Gly
        115                 120                 125

His Arg Gly Thr Gly Glu Leu Gly Ala Ala Leu Ser Arg Leu Ala Leu
    130                 135                 140

Arg Pro Glu Pro Pro Thr Leu Arg Arg Ser Thr Ser Leu Arg Arg Leu
145                 150                 155                 160

Gly Gly Phe Pro Gly Pro Pro Thr Leu Phe Ser Ile Arg Thr Glu Pro
                165                 170                 175

Pro Ala Ser His Gly Ser Phe His Met Ile Ser Ala Arg Ser Ser Glu
            180                 185                 190

Pro Phe Tyr Ser Asp Asp Lys Met Ala His His Thr Leu Leu Leu Gly
        195                 200                 205

Ser Gly His Val Gly Leu Arg Asn Leu Gly Asn Thr Cys Phe Leu Asn
    210                 215                 220

Ala Val Leu Gln Cys Leu Ser Ser Thr Arg Pro Leu Arg Asp Phe Cys
225                 230                 235                 240

Leu Arg Arg Asp Phe Arg Gln Glu Val Pro Gly Gly Gly Arg Ala Gln
                245                 250                 255

Glu Leu Thr Glu Ala Phe Ala Asp Val Ile Gly Ala Leu Trp His Pro
            260                 265                 270

Asp Ser Cys Glu Ala Val Asn Pro Thr Arg Phe Arg Ala Val Phe Gln
        275                 280                 285

Lys Tyr Val Pro Ser Phe Ser Gly Tyr Ser Gln Gln Asp Ala Gln Glu
```

Arg Leu Cys Leu Arg His Asp Ser Ser Gly Lys Arg Asp Phe Asn Asp
85 90 95

Val Phe Ser Gly Ile His Gly
100

<210> 209
<211> 49
<212> PRT
<213> Homo sapiens

<400> 209
Met Arg Gln Thr Lys Leu Glu Gly Trp Leu Ile Phe Pro Leu Phe Ser
1 5 10 15

Cys Phe Ser Phe Ile Ser Leu Gly Ser Asp Glu Gly Pro Glu Ile Phe
20 25 30

Ile Ser His Leu Lys Ser Leu Ala Asp Tyr Ser Arg Ala Leu Val Glu
35 40 45

Val

<210> 210
<211> 49
<212> PRT
<213> Homo sapiens

<400> 210
Met Arg Gln Thr Lys Leu Glu Gly Trp Leu Ile Phe Pro Leu Phe Ser
1 5 10 15

Cys Phe Ser Phe Ile Ser Leu Gly Ser Asp Glu Gly Pro Glu Ile Phe
20 25 30

Ile Ser His Leu Lys Ser Leu Ala Asp Tyr Ser Arg Ala Leu Val Glu
35 40 45

Val

<210> 211
<211> 489
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (79)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>

```
<213> Homo sapiens

<400> 206
Asp Leu Thr Cys Leu Leu Ser Ser Asn Phe Ile Ile Gly Ile Asn Val
 1               5                   10                  15

His Phe Phe Pro Val Pro Val Ser Glu Ala Phe Ile Cys Val Cys Met
             20                  25                  30

Cys Val Leu Asn Lys Cys Ile Arg Tyr Leu Lys Asn Ser Asn Leu Asn
         35                  40                  45

Leu Asn Asn Leu Lys Asn Glu Ile Val Ile Leu Cys Val Lys Val Ser
     50                  55                  60

Asp Val Leu Tyr Ser Ala Leu Lys Thr Ile Phe Ile Tyr Ser Ser Thr
 65                  70                  75                  80

Asp Thr Lys Tyr Ile Leu Lys Leu Leu Ser
                 85                  90



<210> 207
<211> 41
<212> PRT
<213> Homo sapiens

<400> 207
Met Ser Cys Leu Trp Ala Gly Ile Lys Phe Leu Gly Phe Gly Phe Cys
 1               5                   10                  15

Trp Met Asp Cys Ser Leu Cys Glu Pro Ile Trp Val Cys Gln Ile Gln
             20                  25                  30

Ser Leu Gly Cys His Gly Asn Leu Ala
         35                  40



<210> 208
<211> 103
<212> PRT
<213> Homo sapiens

<400> 208
Ser Leu Asp Thr Ala Leu Leu Ser Thr Leu Cys Ser Leu Ala Phe Thr
 1               5                   10                  15

Ala Ala Ser Thr Ser Ser Thr Val Ala Tyr Val Thr Asn Pro Lys Pro
             20                  25                  30

Leu Glu His Leu Val Phe Gly Ser Leu Ile Thr Thr Val Cys Glu Cys
         35                  40                  45

Ser Leu Leu Leu Arg Met Ala His Trp Thr Leu Thr Gly His Phe Lys
     50                  55                  60

Ala Gln Leu Ser Asp Glu Glu Leu Leu Gln Leu Leu Gly Leu Leu Lys
 65                  70                  75                  80
```

```
305                 310                 315


<210> 204
<211> 65
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (9)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (21)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 204
Val Val Val Glu Leu Ile Asn Arg Xaa Gln Asn Tyr Phe Gln Tyr Ile
 1               5                  10                  15

Val Tyr Leu Tyr Xaa Lys Arg Asp Gly Pro Phe Tyr Gly Gly Thr Leu
            20                  25                  30

Ser Met Val Val Phe Cys Asp Val Leu Phe Leu Leu Leu Leu Phe Ala
        35                  40                  45

Leu Phe Ser Pro Ile Thr Ala Leu Leu Ser Leu Lys Arg Ile Asn Phe
    50                  55                  60

Ile
65


<210> 205
<211> 50
<212> PRT
<213> Homo sapiens

<400> 205
Ala Gln Glu Leu Arg Pro Ala Trp Glu Thr Trp Gln Gly Pro Ile Ser
 1               5                  10                  15

Thr Glu Thr Thr Glu Asn Trp Val Gly Met Val Ala Arg Val Pro Ala
            20                  25                  30

Ala Gln Glu Ala Glu Val Gly Gly Ser Leu Glu Pro Arg Arg Leu Arg
        35                  40                  45

Leu Gln
    50


<210> 206
<211> 90
<212> PRT
```

```
<400> 203
Met His Lys Cys Tyr Thr Phe Leu Ile Phe Met Val Leu Leu Leu Pro
1               5                   10                  15

Ser Leu Gly Leu Ser Ser Leu Asp Leu Phe Phe Arg Trp Leu Phe Asp
            20                  25                  30

Lys Lys Phe Leu Ala Glu Ala Ala Ile Arg Phe Glu Cys Val Phe Leu
        35                  40                  45

Pro Asp Asn Gly Ala Phe Phe Val Asn Tyr Val Ile Ala Ser Ala Phe
    50                  55                  60

Ile Gly Asn Ala Met Asp Leu Leu Arg Ile Pro Gly Leu Leu Met Tyr
65                  70                  75                  80

Met Ile Arg Leu Cys Leu Ala Arg Ser Ala Ala Glu Arg Arg Asn Val
                85                  90                  95

Lys Arg His Gln Ala Tyr Glu Phe Arg Phe Gly Ala Ala Tyr Ala Trp
            100                 105                 110

Met Met Cys Val Phe Thr Val Val Met Thr Tyr Ser Ile Thr Cys Pro
        115                 120                 125

Ile Ile Val Pro Phe Gly Leu Met Tyr Met Leu Leu Lys His Leu Val
    130                 135                 140

Asp Arg Tyr Asn Leu Tyr Tyr Ala Tyr Leu Pro Ala Lys Leu Asp Lys
145                 150                 155                 160

Lys Ile His Ser Gly Ala Val Asn Gln Val Val Ala Ala Pro Ile Leu
                165                 170                 175

Cys Leu Phe Trp Leu Leu Phe Phe Ser Thr Met Arg Thr Gly Phe Leu
            180                 185                 190

Ala Pro Thr Ser Met Phe Thr Phe Val Val Leu Val Ile Thr Ile Val
        195                 200                 205

Ile Cys Leu Cys His Val Cys Phe Gly His Phe Lys Tyr Leu Ser Ala
    210                 215                 220

His Asn Tyr Lys Ile Glu His Thr Glu Thr Asp Thr Val Asp Pro Arg
225                 230                 235                 240

Ser Asn Gly Arg Pro Pro Thr Ala Ala Ala Val Pro Lys Ser Ala Lys
                245                 250                 255

Tyr Ile Ala Gln Val Leu Gln Asp Ser Glu Val Asp Gly Asp Gly Asp
            260                 265                 270

Gly Ala Pro Gly Ser Ser Gly Asp Glu Pro Pro Ser Ser Ser Ser Gln
        275                 280                 285

Asp Glu Glu Leu Leu Met Pro Pro Asp Ala Leu Thr Asp Thr Asp Phe
    290                 295                 300

Gln Ser Cys Glu Asp Ser Leu Ile Glu Asn Glu Ile His Gln
```

```
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (23)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 200
Trp Arg His Leu Thr Val Ser Xaa Gly Leu Gln Xaa Arg Leu Ser Xaa
 1               5                   10                  15

Arg Xaa Xaa Trp Glu Gly Xaa Pro Arg Ser Thr Thr Ala Ala Gly Trp
             20                  25                  30

Gly Arg Thr Gly
         35



<210> 201
<211> 21
<212> PRT
<213> Homo sapiens

<400> 201
His Leu Ser Leu Pro Arg Leu Leu Trp Thr Leu Gln Ile Pro Gln Cys
 1               5                   10                  15

Pro Gln Leu Gln Asp
             20



<210> 202
<211> 78
<212> PRT
<213> Homo sapiens

<400> 202
Asp Pro Gln Asn Ile Tyr Trp Glu His Leu Ser Ile Arg Gly Phe Ile
 1               5                   10                  15

Trp Trp Leu Arg Cys Leu Val Ile Asn Val Val Leu Phe Ile Leu Leu
             20                  25                  30

Phe Phe Leu Thr Thr Pro Ala Ile Ile Ile Thr Thr Met Asp Lys Phe
         35                  40                  45

Asn Val Thr Lys Pro Val Glu Tyr Leu Asn Val Arg Pro His Ala Pro
     50                  55                  60

Val Thr Phe His Ala Gly Ser Gln His Thr Asp Thr Arg Pro
 65                  70                  75



<210> 203
<211> 318
<212> PRT
<213> Homo sapiens
```

```
Met Arg Leu Leu Ala Tyr Val Ser Gly Leu Gly Phe Gly Ile Met Ser
        115                 120                 125

Gly Val Phe Ser Phe Val Asn Thr Leu Ser Asp Ser Leu Gly Pro Gly
    130                 135                 140

Thr Val Gly Ile His Gly Asp Ser Pro Gln Phe Phe Leu Tyr Ser Ala
145                 150                 155                 160

Phe Met Thr Leu Val Ile Ile Leu Leu His Val Phe Trp Gly Ile Val
                165                 170                 175

Phe Phe Asp Gly Cys Glu Lys Lys Lys Trp Gly Ile Leu Leu Ile Val
            180                 185                 190

Leu Leu Thr His Leu Leu Val Ser Ala Gln Thr Phe Ile Ser Ser Tyr
        195                 200                 205

Tyr Gly Ile Asn Leu Ala Ser Ala Phe Ile Ile Leu Val Leu Met Gly
    210                 215                 220

Thr Trp Ala Phe Leu Ala Ala Gly Gly Ser Cys Arg Ser Leu Lys Leu
225                 230                 235                 240

Cys Leu Leu Cys Gln Asp Lys Asn Phe Leu Leu Tyr Asn Gln Arg Ser
                245                 250                 255

Arg



<210> 200
<211> 36
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (8)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (12)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (16)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (18)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (19)
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```
Met Arg Leu Leu Ala Tyr Val Ser Gly Leu Gly Phe Gly Ile Met Ser
        115                 120                 125

Gly Val Phe Ser Phe Val Asn Thr Leu Ser Asp Ser Leu Gly Pro Gly
    130                 135                 140

Thr Val Gly Ile His Gly Asp Ser Pro Gln Phe Phe Leu Tyr Ser Ala
145                 150                 155                 160

Phe Met Thr Leu Val Ile Ile Leu Leu His Val Phe Trp Gly Ile Val
                165                 170                 175

Phe Phe Asp Gly Cys Glu Lys Lys Lys Trp Gly Ile Leu Leu Ile Val
            180                 185                 190

Leu Leu Thr His Leu Leu Val Ser Ala Gln Thr Phe Ile Ser Ser Tyr
        195                 200                 205

Tyr Gly Ile Asn Leu Ala Ser Ala Phe Ile Ile Leu Val Leu Met Gly
    210                 215                 220

Thr Trp Ala Phe Leu Ala Ala Gly Gly Ser Cys Arg Ser Leu Lys Leu
225                 230                 235                 240

Cys Leu Leu Cys Gln Asp Lys Asn Phe Leu Leu Tyr Asn Gln Arg Ser
                245                 250                 255

Arg



<210> 199
<211> 257
<212> PRT
<213> Homo sapiens

<400> 199
Met Thr Ala Ala Val Phe Phe Gly Cys Ala Phe Ile Ala Phe Gly Pro
 1               5                   10                  15

Ala Leu Ala Leu Tyr Val Phe Thr Ile Ala Ile Glu Pro Leu Arg Ile
             20                  25                  30

Ile Phe Leu Ile Ala Gly Ala Phe Phe Trp Leu Val Ser Leu Leu Ile
         35                  40                  45

Ser Ser Leu Val Trp Phe Met Ala Arg Val Ile Ile Asp Asn Lys Asp
     50                  55                  60

Gly Pro Thr Gln Lys Tyr Leu Leu Ile Phe Gly Ala Phe Val Ser Val
 65                  70                  75                  80

Tyr Ile Gln Glu Met Phe Arg Phe Ala Tyr Tyr Lys Leu Leu Lys Lys
                 85                  90                  95

Ala Ser Glu Gly Leu Lys Ser Ile Asn Pro Gly Glu Thr Ala Pro Ser
            100                 105                 110
```

```
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (2)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 197
Arg Xaa Pro Ile Phe Ile Gly Glu Asn Phe Tyr Pro Pro Val Arg Gly
 1               5                  10                  15

Arg Val Gly Met Ser Ala Cys Gln Gly Gly Gly Gly Gly Gly Gly Gly
            20                  25                  30

Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly Gly
        35                  40                  45

Gly Gly Gly Gly Val Asp Lys Leu Pro Cys Leu Thr Met Cys Trp Cys
    50                  55                  60

Gly Asn Gly Ala Gln Pro Ala Arg Leu Lys Val Asp Gly Ile Pro Thr
65                  70                  75                  80

Gly Gln Arg Lys Ser Tyr Ala Asp Thr Pro Ala Trp Pro Gly
                85                  90


<210> 198
<211> 257
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (27)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 198
Met Thr Ala Ala Val Phe Phe Gly Cys Ala Phe Ile Ala Phe Gly Pro
 1               5                  10                  15

Ala Leu Ala Leu Tyr Val Phe Thr Ile Ala Xaa Glu Pro Leu Arg Ile
            20                  25                  30

Ile Phe Leu Ile Ala Gly Ala Phe Phe Trp Leu Val Ser Leu Leu Ile
        35                  40                  45

Ser Ser Leu Val Trp Phe Met Ala Arg Val Ile Ile Asp Asn Lys Asp
    50                  55                  60

Gly Pro Thr Gln Lys Tyr Leu Leu Ile Phe Gly Ala Phe Val Ser Val
65                  70                  75                  80

Tyr Ile Gln Glu Met Phe Arg Phe Ala Tyr Tyr Lys Leu Leu Lys Lys
                85                  90                  95

Ala Ser Glu Gly Leu Lys Ser Ile Asn Pro Gly Glu Thr Ala Pro Ser
            100                 105                 110
```

```
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (17)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 195
Asn Leu Xaa Cys Cys Glu Pro Leu Lys Gly Thr Glu Ile Val His Leu
 1               5                  10                  15

Xaa Ser Ser Asp Phe Lys Ala Val Ala Cys Arg Cys Ser Gln Leu Asn
            20                  25                  30

Lys Ala Leu Pro Ser Thr Thr Leu Arg Gly Phe Val Cys Gly Ser Ser
        35                  40                  45

Cys Tyr Ile Ser Trp Phe Pro Asn Gln Glu Thr Arg
    50                  55                  60



<210> 196
<211> 82
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (26)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (28)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 196
Pro Gly Asn Glu Val Thr Asp Gly Gln Pro Arg Gln Pro Leu Arg Arg
 1               5                  10                  15

Leu Arg Leu Pro Cys Gly Ala Ser Leu Xaa Arg Xaa Pro Ala Ser Pro
            20                  25                  30

Ser Asp Ala Ile Gln Arg Ala Leu Pro Gly Arg Lys Leu Pro Arg Trp
        35                  40                  45

Asn Ala Ser Pro Glu Gln Arg Val Ala Val Pro Cys Gly Gly Leu Thr
    50                  55                  60

Gln Trp Leu Asn Thr Gly Lys Glu Leu Ala Leu Gly Val Arg Thr Ser
65                  70                  75                  80

Glu Thr



<210> 197
<211> 94
```

```
Leu His Arg Glu Arg Gly Asn Arg Arg Leu Gly Asn Gly Gly Glu Trp
         35                  40                  45

Gly Arg Asn Trp Val Gln
     50


<210> 193
<211> 27
<212> PRT
<213> Homo sapiens

<400> 193
Met His Gln Leu Phe Gly Leu Phe Val Thr Leu Met Phe Ala Ser Val
 1               5                   10                  15

Gly Gly Gly Leu Gly Gly Ile Ile Leu Val Leu
             20                  25


<210> 194
<211> 106
<212> PRT
<213> Homo sapiens

<400> 194
Met Pro Gly Val Leu Gly Ala Leu Leu Gly Val Leu Val Ala Gly Leu
 1               5                   10                  15

Ala Thr His Glu Ala Tyr Gly Asp Gly Leu Glu Ser Val Phe Pro Leu
             20                  25                  30

Ile Ala Glu Gly Gln Arg Ser Ala Thr Ser Gln Ala Met His Gln Leu
         35                  40                  45

Phe Gly Leu Phe Val Thr Leu Met Phe Ala Ser Val Gly Gly Gly Leu
     50                  55                  60

Gly Gly Ile Ile Leu Val Leu Cys Leu Leu Asp Pro Cys Ala Leu Trp
 65                  70                  75                  80

His Trp Val Ala Pro Ser Ser Met Val Gly Gly Arg Glu Ala Ser Gln
                 85                  90                  95

Ile Leu Pro Tyr His His Gln Gly Ser Cys
            100                 105


<210> 195
<211> 60
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (3)
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100 105 110

Tyr Glu Cys Lys Glu Cys Asn Lys Ala Phe Arg Gln Ser Ala His Leu
115 120 125

Asn Gln His Gln Arg Ile His Thr Gly Glu Lys Pro Tyr Glu Cys Asn
130 135 140

Gln Cys Gly Lys Ala Phe Ser Arg Arg Ile Ala Leu Thr Leu His Gln
145 150 155 160

Arg Ile His Thr Gly Glu Lys Pro Phe Lys Cys Ser Glu Cys Gly Lys
165 170 175

Thr Phe Gly Tyr Arg Ser His Leu Asn Gln His Gln Arg Ile His Thr
180 185 190

Gly Glu Lys Pro Tyr Glu Cys Ile Lys Cys Gly Lys Phe Phe Arg Thr
195 200 205

Asp Ser Gln Leu Asn Arg His His Arg Ile His Thr Gly Glu Arg Pro
210 215 220

Phe Glu Cys Ser Lys Cys Gly Lys Ala Phe Ser Asp Ala Leu Val Leu
225 230 235 240

Ile His His Lys Arg Ser His Ala Gly Glu Lys Pro Tyr Glu Cys Asn
245 250 255

Lys Cys Gly Lys Ala Phe Ser Cys Gly Ser Tyr Leu Asn Gln His Gln
260 265 270

Arg Ile His Thr Gly Glu Lys Pro Tyr Glu Cys Ser Glu Cys Gly Lys
275 280 285

Ala Phe His Gln Ile Leu Ser Leu Arg Leu His Gln Arg Ile His Ala
290 295 300

Gly Glu Lys Pro Tyr Lys Cys Asn Glu Cys Gly Asn Asn Phe Ser Cys
305 310 315 320

Val Ser Ala Leu Arg Arg His Gln Arg Ile His Asn Arg Glu Thr Leu
325 330 335

<210> 192
<211> 54
<212> PRT
<213> Homo sapiens

<400> 192
Leu Ala Ala Thr Arg Lys Phe Phe Leu Ser Ser His Ser Ser Ser Cys
1 5 10 15

Lys Lys Gly Ala Met Ser Gln Lys Glu Ala Pro Phe His Arg Gln Arg
20 25 30

```
Thr His Phe Gly Lys Leu Pro His Gly Tyr Asp Glu Cys Gly Asp Ala
145                 150                 155                 160

Phe Ser Cys Tyr Ser Phe Phe Thr Gln Pro Gln Arg Ile His Ser Gly
                165                 170                 175

Glu Lys Pro Tyr Ala Cys Asn Asp Cys Gly Xaa Ala Phe Ser Pro Thr
            180                 185                 190

Ser Phe Ser Val Asn Ile Lys Glu Leu Ile Leu Gly Arg Asn Leu Met
        195                 200                 205

Asn Val Arg Asn Val Thr Lys Leu Ser Asp Arg Val Leu Thr Leu Leu
    210                 215                 220

Asn Ile Arg Gly Ser Thr Leu Glu Arg Asn Arg Leu Arg Ala Met Asn
225                 230                 235                 240

Val Gly Arg Pro Leu Ala Val Met Pro Ser Leu Leu Asn Ile Arg Glu
                245                 250                 255

Phe Thr Gln Val Arg Asn His Met Asn Val Lys Asn Val Ile Lys Pro
            260                 265                 270

Ser Asp Arg Val Leu Thr Leu Ile Asn Ile Arg Gly Phe Thr Leu Glu
        275                 280                 285

Arg Asn Pro Met Asn Val Ile Ser Val Glu Lys Pro Ser Ala Asp Ala
    290                 295                 300




<210> 191
<211> 336
<212> PRT
<213> Homo sapiens

<400> 191
Met Asp Thr Met Asn Val Val Met Pro Leu Ala Val Thr His Ser Leu
  1               5                  10                  15

Leu Asn Leu Arg Glu Phe Thr Val Val Glu Lys Pro Tyr Ala Cys Asn
             20                  25                  30

Asp Cys Gly Lys Ala Phe Ser His Asp Phe Phe Leu Ser Glu His Gln
         35                  40                  45

Arg Thr His Ile Gly Glu Lys Pro Tyr Glu Cys Lys Glu Cys Asn Lys
     50                  55                  60

Ala Phe Arg Gln Ser Ala His Leu Ala Gln His Gln Arg Ile His Thr
 65                  70                  75                  80

Gly Glu Lys Pro Phe Ala Cys Asn Glu Cys Gly Lys Ala Phe Ser Arg
                 85                  90                  95

Tyr Ala Phe Leu Val Glu His Gln Arg Ile His Thr Gly Glu Lys Pro
```

20 25 30

Lys Tyr Arg Lys Glu Asn Met Trp Leu Pro Leu Asn Pro Tyr
35 40 45

<210> 190
<211> 304
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (15)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (30)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (32)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (187)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 190
Met Leu Gln Phe Gln Arg Thr Trp Lys Tyr Lys Gly Glu Phe Xaa Leu
1 5 10 15

His Gln Gly Asn Ala Glu Arg His Phe Met Gln Val Thr Xaa Val Xaa
20 25 30

Glu Ile Ser Thr Gly Lys Arg Asp Asn Glu Phe Ser Asn Ser Gly Arg
35 40 45

Ser Ile Pro Leu Lys Ser Val Phe Leu Thr Gln Gln Lys Val Pro Thr
50 55 60

Ile Gln Gln Val His Lys Phe Asp Ile Tyr Asp Lys Leu Phe Pro Gln
65 70 75 80

Asn Ser Val Ile Ile Glu Tyr Lys Arg Leu His Ala Glu Lys Glu Ser
85 90 95

Leu Ile Gly Asn Glu Cys Glu Glu Phe Asn Gln Ser Thr Tyr Leu Ser
100 105 110

Lys Asp Ile Gly Ile Pro Pro Gly Glu Lys Pro Tyr Glu Ser His Asp
115 120 125

Phe Ser Lys Leu Leu Ser Phe His Ser Leu Phe Thr Gln His Gln Thr
130 135 140

<400> 185
Leu Leu Cys
1

<210> 186
<211> 1
<212> PRT
<213> Homo sapiens

<400> 186
Ser
1

<210> 187
<211> 5
<212> PRT
<213> Homo sapiens

<400> 187
Ala Gly Thr Trp Ser
1 5

<210> 188
<211> 45
<212> PRT
<213> Homo sapiens

<400> 188
Met Ala Gly Val Trp Asn Thr Ile Ala Leu Trp Phe Leu Ser Val Phe
1 5 10 15

Gly Val Ile Ser Ala Pro Thr Thr Gly Thr Ser Pro Thr Ser Cys Arg
20 25 30

Cys Val Gly Pro Arg Pro Pro Gly Cys Gly Pro Ala Gly
35 40 45

<210> 189
<211> 46
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (21)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 189
Leu Ile Asn Val Thr Asn Val Gly Ile Ile Leu Ala Val Ser Gln Pro
1 5 10 15

Leu Asp Asp Ile Xaa Glu Phe Ile Ile Glu Lys Arg Ser Asp Tyr Asn

```
        195                 200


<210> 182
<211> 54
<212> PRT
<213> Homo sapiens

<400> 182
Met Thr Ser Pro Leu Ala Arg Leu Leu Leu Pro Phe Trp Cys His Thr
 1               5                  10                  15

Leu Gly Thr Met Ala Leu Gly Thr Pro Asn Pro Gly Ala Met Ala Trp
             20                  25                  30

Gly Ala Val Gly Glu Pro Asn Pro Gly Ala Trp Thr Val Pro Leu Gly
         35                  40                  45

Ala Phe Leu Ala Gly Arg
     50


<210> 183
<211> 54
<212> PRT
<213> Homo sapiens

<400> 183
Met Thr Ser Pro Leu Ala Arg Leu Leu Leu Pro Phe Trp Cys His Thr
 1               5                  10                  15

Leu Gly Thr Met Ala Leu Gly Thr Pro Asn Pro Gly Ala Met Ala Trp
             20                  25                  30

Gly Ala Val Gly Glu Pro Asn Pro Gly Ala Trp Thr Val Pro Leu Gly
         35                  40                  45

Ala Phe Leu Ala Gly Arg
     50


<210> 184
<211> 1
<212> PRT
<213> Homo sapiens

<400> 184
Ser
 1


<210> 185
<211> 3
<212> PRT
<213> Homo sapiens
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<210> 181
<211> 204
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (1)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (5)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (8)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 181
Xaa Pro Ser Leu Xaa Gly Thr Xaa Ala Gly Gly Ser Thr Ala Val Ala
 1               5                   10                  15

Ala Ala Leu Glu Leu Val Asp Pro Pro Gly Cys Arg Asn Ser Ala Arg
             20                  25                  30

Ala Ala Ala Glu Leu Ser Leu Leu Glu Lys Ser Leu Gly Leu Ser Lys
         35                  40                  45

Gly Asn Lys Tyr Ser Ala Gln Gly Glu Arg Gln Ile Pro Val Leu Gln
     50                  55                  60

Thr Asn Asn Gly Pro Ser Leu Thr Gly Leu Thr Thr Ile Ala Ala His
 65                  70                  75                  80

Leu Val Lys Gln Ala Asn Lys Glu Tyr Leu Leu Gly Ser Thr Ala Glu
                 85                  90                  95

Glu Lys Ala Ile Val Gln Gln Trp Leu Glu Tyr Arg Val Thr Gln Val
            100                 105                 110

Asp Gly His Ser Ser Lys Asn Asp Ile His Thr Leu Leu Lys Asp Leu
        115                 120                 125

Asn Ser Tyr Leu Glu Asp Lys Val Tyr Leu Thr Gly Tyr Asn Phe Thr
    130                 135                 140

Leu Ala Asp Ile Leu Leu Tyr Tyr Gly Leu His Arg Phe Ile Val Asp
145                 150                 155                 160

Leu Thr Val Gln Glu Lys Glu Lys Tyr Leu Asn Val Ser Arg Trp Phe
                165                 170                 175

Cys His Ile Gln His Tyr Pro Gly Ile Arg Gln His Leu Ser Ser Val
            180                 185                 190

Val Phe Ile Lys Asn Arg Leu Tyr Thr Asn Ser His
```

```
<212> PRT
<213> Homo sapiens

<400> 177
Met Ile Tyr Gln Ile Tyr Gly Ile Ile Cys Ser Leu Phe Pro
 1               5                   10



<210> 178
<211> 31
<212> PRT
<213> Homo sapiens

<400> 178
Gly Pro Phe Cys Asp Val Thr Thr Leu His Leu Pro Gly Leu Leu Cys
 1               5                   10                  15

Thr Gln Cys Ser Leu Asp Pro Val Asp Leu Tyr Leu Trp Arg Ser
             20                  25                  30



<210> 179
<211> 14
<212> PRT
<213> Homo sapiens

<400> 179
Met Ile Tyr Gln Ile Tyr Gly Ile Ile Cys Ser Leu Phe Pro
 1               5                   10



<210> 180
<211> 71
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (71)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 180
Thr Met Gly Pro Gly Asp Arg His Arg Leu Pro Val Tyr Leu Gly His
 1               5                   10                  15

Cys Leu Gly Cys Leu Glu Ser Gly Leu Leu Ala Gln Ile Leu Pro Leu
             20                  25                  30

Leu Gly Gln Gly Arg Pro Phe Met Asp Ser Leu Ile Arg Val Ala Ala
         35                  40                  45

Glu Arg Arg Ala Gly Gln Val Leu Lys Gly Thr Leu Lys Arg Phe Ser
     50                  55                  60

Glu Arg Gln Gly Arg Arg Xaa
 65                  70
```

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<221> SITE
<222> (44)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (57)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 175
Met Ala Gln Ser Arg Val Leu Leu Leu Leu Leu Leu Leu Pro Pro Gln
 1               5                  10                  15

Leu Ala Pro Gly Thr Cys Ala Cys Arg Glu Gly Pro Arg Ile Trp Pro
            20                  25                  30

Asn Gly Gly His Ser Leu Ser Pro Glu Glu Asn Xaa Leu Arg Lys Lys
        35                  40                  45

Ser Arg Leu Leu Leu Ile Glu Ala Xaa Lys Lys Pro Gly Ala Trp Ala
    50                  55                  60

Gln Ala Ala Val
65



<210> 176
<211> 85
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (26)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 176
Met Ala Gln Ser Arg Val Leu Leu Leu Leu Leu Leu Leu Pro Pro Gln
 1               5                  10                  15

Leu His Leu Gly Pro Val Leu Ala Val Xaa Ala Pro Gly Phe Gly Arg
            20                  25                  30

Ser Gly Gly His Ser Leu Ser Pro Glu Glu Asn Glu Phe Ala Glu Glu
        35                  40                  45

Glu Pro Val Leu Val Leu Ser Pro Glu Glu Pro Gly Pro Gly Pro Ala
    50                  55                  60

Ala Val Ser Cys Pro Arg Asp Cys Ala Cys Ser Gln Glu Gly Val Val
65                  70                  75                  80

Asp Cys Gly Gly Tyr
                85


<210> 177
<211> 14
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Phe Leu Phe Val Pro Ile Ala Arg Glu Pro Gly Arg Leu Cys Arg Phe
35 40 45

Ser Gly Asn Lys Gln Leu Asn Gly Leu Ala Val Ala Leu Gln Ala Phe
50 55 60

Arg Phe Ala Lys Asn Lys Thr Ser Gln Lys Arg Cys Ala
65 70 75

<210> 173
<211> 77
<212> PRT
<213> Homo sapiens

<400> 173
Met Ala Thr Thr Gly Thr Lys Pro Thr Ser Cys Trp Cys Trp Phe Leu
1 5 10 15

Leu Ala Met Cys Trp Phe Val Gln Leu Arg Thr Glu Trp Glu Arg Ala
20 25 30

Phe Leu Phe Val Pro Ile Ala Arg Glu Pro Gly Arg Leu Cys Arg Phe
35 40 45

Ser Gly Asn Lys Gln Leu Asn Gly Leu Ala Val Ala Leu Gln Ala Phe
50 55 60

Arg Phe Ala Lys Asn Lys Thr Ser Gln Lys Arg Cys Ala
65 70 75

<210> 174
<211> 56
<212> PRT
<213> Homo sapiens

<400> 174
Cys Asp Val Lys Pro Ala Asp Val Lys Asp Ile Gly Gly Thr Val Glu
1 5 10 15

Ala Ser Cys Met Asn Phe Ser Trp Pro Ala Pro Thr Ala Gln Val His
20 25 30

Thr Arg Lys Arg Arg Val Trp Ala Cys Leu Arg Val Asp Val Ser Ser
35 40 45

Glu Val Arg Pro Gly Lys Ala Leu
50 55

<210> 175
<211> 68
<212> PRT
<213> Homo sapiens

<220>

1 5 10 15

Ser Gln Ala Gln Lys Met Pro Gly Val Arg Ala Ser Arg Gln Pro Gly
20 25 30

Xaa Gly Arg Gln Cys Leu Leu Leu Leu His Gln Val Gln Gly Ile Trp
35 40 45

Leu Lys Ala Cys Ile Phe Pro Gly His Lys Leu Pro Glu Pro Leu Lys
50 55 60

Trp Glu Ala Arg Gln Phe Gln Thr Asn Leu Phe Ser Thr His His Ser
65 70 75 80

Thr Phe Lys Val Cys Leu Leu Leu Leu Pro Val His Pro Pro Ser Leu
85 90 95

Gln Phe Phe His Ser Leu Thr Ser Glu Arg Val Pro Gly Gly Ser Met
100 105 110

Val Asn Lys Leu Thr Cys Met Leu Gln Lys Lys Lys Lys Lys Lys Ile
115 120 125

Xaa Ala Val Arg Lys Gly Ile
130 135

<210> 171
<211> 50
<212> PRT
<213> Homo sapiens

<400> 171
Met Leu Leu Leu Val Val Thr Leu Val Asn Leu Ser Ile Tyr Lys Leu
1 5 10 15

Ile Lys Leu Val Thr Ala Leu Ser Lys Lys Leu Gly Ala Lys Gly Val
20 25 30

Leu Lys Asn Ala His Phe Met Arg Cys Asn Cys Gly Glu Met Arg Thr
35 40 45

Arg Ser
50

<210> 172
<211> 77
<212> PRT
<213> Homo sapiens

<400> 172
Met Ala Thr Thr Gly Thr Lys Pro Thr Ser Cys Trp Cys Trp Phe Leu
1 5 10 15

Leu Ala Met Cys Trp Phe Val Gln Leu Arg Thr Glu Trp Glu Arg Ala
20 25 30

```
Leu Leu
  1



<210> 169
<211> 69
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (6)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (13)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (51)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 169
Trp Tyr Gln Gly Lys Xaa Asp Leu Lys Gly Leu Gly Xaa Val Leu Asp
  1               5                  10                  15

Gly Ser Asp Gly Met Ala Gly Gly Ile Pro Glu Gly Met Ala Phe Thr
             20                  25                  30

Leu Tyr Leu Gly Ile Trp Leu Ser Ser Pro Phe Pro Asp Cys Cys Ile
        35                  40                  45

Ala Phe Xaa Phe Ala Tyr Ser Ser Ser Pro Leu Ser Ser Gly Asp Thr
    50                  55                  60

Phe Gln Gly Pro Gln
 65



<210> 170
<211> 135
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (33)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (129)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 170
Ala Lys Met Pro Trp Thr Cys Ser Val Ser Asp Pro Thr Ser Cys Asp
```

```
<210> 165
<211> 21
<212> PRT
<213> Homo sapiens

<400> 165
Met Lys Asn Ser Phe Phe Thr Val Ser Trp Ala Leu Thr Cys Ser Phe
 1               5                  10                  15

Ser Trp Ala Thr Val
            20



<210> 166
<211> 39
<212> PRT
<213> Homo sapiens

<400> 166
Met Pro Leu Phe Arg Thr Phe Lys Gln Leu Gly Leu Phe Leu Phe Leu
 1               5                  10                  15

Ile Ile Pro Ile Ile Cys Ser Ser Leu Pro Pro Leu Gly Pro Val Gln
            20                  25                  30

Ser Phe Leu Gly Cys Leu Tyr
        35



<210> 167
<211> 50
<212> PRT
<213> Homo sapiens

<400> 167
Met Leu Leu Leu Val Val Thr Leu Val Asn Leu Ser Ile Tyr Lys Leu
 1               5                  10                  15

Ile Lys Leu Val Thr Ala Leu Ser Lys Lys Leu Gly Ala Lys Gly Val
            20                  25                  30

Leu Lys Asn Ala His Phe Met Arg Cys Asn Cys Gly Glu Met Arg Thr
        35                  40                  45

Arg Ser
    50



<210> 168
<211> 2
<212> PRT
<213> Homo sapiens

<400> 168
```

```
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (51)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 163
Gln Xaa Lys Pro Pro Xaa Pro Ala Ala Pro Ala Ala Pro Xaa Ala Pro
1               5                   10                  15

Ala Pro Leu Glu Lys Pro Ile Arg Ser His Glu Ala Thr Gly Gly Gly
            20                  25                  30

Glu Xaa Ala Cys Gly Val Thr Gly Ala Ser Thr Pro Glu Gly Thr Ala
        35                  40                  45

Pro Pro Xaa Pro Ala Ala Pro Ala Pro Pro Lys Gly Glu Lys Glu Gly
    50                  55                  60

Gln Arg Pro Thr Gln Pro Val Tyr Gln Ile Gln Asn Arg Gly Met Gly
65                  70                  75                  80

Thr Ala Ala Pro Ala Ala Met Asp Arg Glu Leu Gly Leu Gly Ser Thr
                85                  90                  95

Arg Leu Gly Thr Gly Val Ser Ser Gln Ile Leu Thr Ala Ser Ser Val
            100                 105                 110

Ser Cys Phe Leu Gln Ser Pro Ala Val Val Gly Gln Ala Lys Leu Leu
        115                 120                 125

Pro Pro Glu Arg Met Lys His Ser Ile Lys Leu Val Asp Asp Gln Met
    130                 135                 140

Asn Trp Cys Asp Ser Ala Ile Glu Val Pro Arg Gly Pro Ala Leu Pro
145                 150                 155                 160

Glu Leu Pro His Ile Leu His Pro Leu Ile Phe His Leu Ser Val Gly
                165                 170                 175

Asn Thr Arg Leu Glu Gly Phe Glu Ala Thr Tyr Ser Ser Glu Arg Gly
            180                 185                 190

Trp Tyr Gln Asn Ile Leu Thr
        195


<210> 164
<211> 21
<212> PRT
<213> Homo sapiens

<400> 164
Met Lys Asn Ser Phe Phe Thr Val Ser Trp Ala Leu Thr Cys Ser Phe
1               5                   10                  15

Ser Trp Ala Thr Val
            20
            180                 185                 190

Pro Ser Ile Ala Asp Pro Asp Pro Ser Asp Leu Pro Val Asp Arg Ala
        195                 200                 205

Ala Thr Lys Ala Pro Gly Met Glu Pro Ser Gly Ser Val Ala Gly Leu
    210                 215                 220

Gly Glu Leu Asp Pro Gly Ala Phe Leu Asp Lys Asp Ala Glu Cys Arg
225                 230                 235                 240

Glu Glu Leu Leu Lys Asp Asp Ser Ser Glu His Gly Ala Pro Asp Ser
                245                 250                 255

Lys Glu Lys Thr Pro Gly Arg His Arg Arg Phe Thr Gly Asp Ser Gly
            260                 265                 270

Ile Glu Val Cys Val Cys Asn Arg Gly His His Asp Asp Asp Leu Lys
        275                 280                 285

Glu Val Asn Thr Leu Ile Asp Asp Ala Leu Asp Gly Pro Leu Asp Phe
    290                 295                 300

Cys Asp Ser Cys His Val Arg Pro Pro Gly Asp Glu Glu Glu Gly Leu
305                 310                 315                 320

Cys Gln Pro Ser Glu Glu Gln Ala Arg Glu Pro Gly His Pro His Leu
                325                 330                 335

Pro Arg Pro Pro Ala Cys Leu Leu Leu Asn Thr Ile Asn Glu Gln Asp
            340                 345                 350

Ser Pro Asn Ser Gln Ser Asn Ser Ser Pro Ser
        355                 360


<210> 163
<211> 199
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (2)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (6)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (14)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (34)
```

```
Ile Cys Asp Thr Gly His Cys Cys Gly Gln Ser Gln Cys Cys Asn Tyr
         35                  40                  45

Tyr Tyr Glu Leu Trp Trp Phe Trp Leu Val Trp Thr Ile Ile Ile Ile
     50                  55                  60

Leu Ser Cys Cys Cys Val Cys His His Arg Arg Ala Lys His Arg Leu
 65                  70                  75                  80

Gln Ala Gln Gln Arg Gln His Glu Ile Asn Leu Ile Ala Tyr Arg Glu
                 85                  90                  95

Ala His Asn Tyr Ser Ala Leu Pro Phe Tyr Phe Arg Phe Leu Pro Asn
            100                 105                 110

Tyr Leu Leu Pro Pro Leu
        115
```

<210> 162
<211> 363
<212> PRT
<213> Homo sapiens

<400> 162

```
Met Glu Arg Arg Arg Leu Leu Gly Gly Met Ala Leu Leu Leu Leu Gln
 1               5                   10                  15

Ala Leu Pro Ser Pro Leu Ser Ala Arg Ala Glu Pro Pro Gln Asp Lys
             20                  25                  30

Glu Ala Cys Val Gly Thr Asn Asn Gln Ser Tyr Ile Cys Asp Thr Gly
         35                  40                  45

His Cys Cys Gly Gln Ser Gln Cys Cys Asn Tyr Tyr Tyr Glu Leu Trp
     50                  55                  60

Trp Phe Trp Leu Val Trp Thr Ile Ile Ile Ile Leu Ser Cys Cys Cys
 65                  70                  75                  80

Val Cys His His Arg Arg Ala Lys His Arg Leu Gln Ala Gln Gln Arg
                 85                  90                  95

Gln His Glu Ile Asn Leu Ile Ala Tyr Arg Glu Ala His Asn Tyr Ser
            100                 105                 110

Ala Leu Pro Phe Tyr Phe Arg Phe Leu Pro Asn Tyr Leu Leu Pro Pro
        115                 120                 125

Tyr Glu Glu Val Val Asn Arg Pro Pro Thr Pro Pro Pro Pro Tyr Ser
    130                 135                 140

Ala Phe Gln Leu Gln Gln Gln Gln Leu Leu Pro Pro Gln Cys Gly Pro
145                 150                 155                 160

Ala Gly Gly Ser Pro Pro Gly Ile Asp Pro Thr Arg Gly Ser Gln Gly
                165                 170                 175

Ala Gln Ser Ser Pro Leu Ser Glu Pro Ser Arg Ser Ser Thr Arg Pro
```

```
 65                  70                  75                  80

Ser Glu Leu Ser Ser Phe Ser Ser Ser Ser Leu His Ser Ala Ser Leu
                 85                  90                  95

Ser Arg Lys Ala Pro Gly Ser Ser Ser Pro Arg Pro Ala Thr Glu Pro
            100                 105                 110

Leu Gly Ser Ile Pro Gly Ala Leu Val Ala Ala Arg Ser Thr Gly Arg
        115                 120                 125

Ser Glu Gly Ser Gly Ser Ala Met Leu Gly Gly Leu Val Leu Leu Leu
    130                 135                 140

Leu Gly Ser Asp Lys Gly Leu Leu Cys Ala Pro Trp Asp Pro Leu Val
145                 150                 155                 160

Gly Ser Met Pro Gly Gly Leu Pro Pro Ala Gly Pro His Cys Gly Gly
                165                 170                 175

Ser Ser Cys Cys Cys Cys Ser Trp Lys Ala Leu Tyr Gly Gly Gly Gly
            180                 185                 190

Val Gly Gly Arg Phe Thr Thr Ser Ser
        195                 200


<210> 160
<211> 52
<212> PRT
<213> Homo sapiens

<400> 160
Met Ala Leu Leu Leu Leu Gln Ala Leu Pro Ser Pro Leu Ser Ala Arg
 1              5                   10                  15

Ala Glu Pro Pro Gln Asp Lys Glu Ala Cys Val Gly Thr Asn Asn Gln
             20                  25                  30

Ser Tyr Ile Cys Asp Thr Gly His Cys Cys Gly Gln Ser Gln Cys Cys
         35                  40                  45

Lys Leu Leu Leu
     50


<210> 161
<211> 118
<212> PRT
<213> Homo sapiens

<400> 161
Leu Leu Leu Leu Gln Ala Leu Pro Ser Pro Leu Ser Ala Arg Ala Glu
 1              5                   10                  15

Pro Pro Gln Asp Lys Glu Ala Cys Val Gly Thr Asn Asn Gln Ser Tyr
             20                  25                  30
```

```
<213> Homo sapiens

<220>
<221> SITE
<222> (36)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 158
Gly Ser Asp Gly Pro Arg Glu Arg Ala Pro Val Ala Trp Leu Ser His
 1               5                   10                  15

Ser Ile Leu Ser Leu Ile Leu Asn Lys Tyr Phe Leu Trp Gly Phe Phe
            20                  25                  30

Phe Phe Leu Xaa Ala Val Val Cys Phe Lys Leu Thr Thr Trp Lys Lys
        35                  40                  45

His Leu Gly Tyr Leu Trp Phe Ser Cys Leu Val Pro Ala Ser Thr Pro
    50                  55                  60

Thr Pro Phe Glu Ser Gly Asp Ser Phe Phe Cys Val Glu Thr Arg Trp
65                  70                  75                  80

Pro Arg Gln Glu Val Lys Ala Ala Ile Arg Lys Ala Leu Gly Thr Leu
                85                  90                  95

Val Pro Val Ala Arg Leu Gln Val Thr Ser
            100                 105



<210> 159
<211> 201
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (10)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (19)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 159
Leu Ser Ser Leu Leu Pro Gln Arg Leu Xaa Glu Pro Ser Ser Ser Ser
 1               5                   10                  15

Pro Gly Xaa Arg Thr Trp Gln Leu Ser Gln Lys Ser Arg Gly Pro Ser
            20                  25                  30

Arg Ala Ser Ser Met Ser Val Leu Asn Ser Leu Arg Ser Ser Ser Trp
        35                  40                  45

Trp Pro Arg Leu His Thr His Thr Ser Met Pro Glu Ser Pro Val Lys
    50                  55                  60

Arg Arg Cys Leu Pro Gly Val Phe Ser Leu Leu Ser Gly Ala Pro Cys
```

Met Leu Asn Asp Gly Lys Val Trp Val Ser Cys Phe Cys Val Val Leu
1 5 10 15

Thr Ser Leu Asp Phe Cys Ser Phe Cys Ser Leu Trp Ala Ser Val Leu
20 25 30

Ser Leu Ile
35

<210> 156
<211> 114
<212> PRT
<213> Homo sapiens

<400> 156
Gly Pro Arg Arg Leu Ser Gly Thr His Ser Arg Gly Ser Ser Pro Asp
1 5 10 15

Pro Cys Ser Cys Val Val Trp Ala Ser Ala Asn Ser Trp Ala Thr Cys
20 25 30

Val Tyr Leu Glu Pro Gly Ser Pro Leu Ser Ser Phe Pro Cys Ala Tyr
35 40 45

Ser Gly Thr Cys Leu Val Arg Val Trp Gln Glu Asn Gly Ala Phe Asn
50 55 60

Asn Leu Pro Ser Phe Ile Pro Trp Ser Leu Leu His Ala Arg Thr Cys
65 70 75 80

Ala His Leu Phe Gly Ala Leu Ser His Leu Ile Asp Ser Arg Pro Gly
85 90 95

Ala Val Leu Thr Pro Val Ile Pro Ala Leu Trp Glu Asp Glu Ala Gly
100 105 110

Gly Ser

<210> 157
<211> 26
<212> PRT
<213> Homo sapiens

<400> 157
Met Cys Val Ser Pro Val Ser Val Cys Pro Phe Leu Pro Ser Leu His
1 5 10 15

Phe Ile Asn Asn Trp Cys Asn Val Ser Ser
20 25

<210> 158
<211> 106
<212> PRT

```
            100                 105                 110

Cys Phe Gly Leu Val Lys Pro Cys Val Val Asp Trp Thr Ser Gln Tyr
        115                 120                 125

Thr Met Val Phe His Pro Ala Arg Glu Lys Val Leu Arg Ser Val
    130                 135                 140



<210> 154
<211> 101
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (91)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (93)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (99)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 154
Trp Glu Ser Leu Gly Leu Met Phe Leu Cys Gly Pro His Leu Thr Arg
 1               5                  10                  15

Leu Leu Leu Phe Leu Phe Thr Leu Gly Phe Cys Ala Phe Ile Asn Ile
            20                  25                  30

Val Leu Ser Phe Pro Leu Val Cys Ile Pro Phe Cys Leu Gly Arg Leu
        35                  40                  45

Tyr Phe Leu Leu Leu Thr Glu Lys Pro His Gln Glu Ala Cys Pro Gly
    50                  55                  60

Asp Glu Leu Gly Thr Gly His Leu His Ile Gly Leu Gly Ala Val Arg
65                  70                  75                  80

Leu Gln Gly Pro Asp Asn Met Arg Asn Glu Xaa Ser Xaa Ile Val Val
                85                  90                  95

Gly Asp Xaa Gly Leu
            100


<210> 155
<211> 35
<212> PRT
<213> Homo sapiens

<400> 155
```

```
 1               5                   10                  15

Cys Cys



<210> 151
<211> 26
<212> PRT
<213> Homo sapiens

<400> 151
Gly Cys Phe Lys Ile Val Leu Phe Phe Lys Leu Val Ile Phe Ala Lys
 1               5                   10                  15

Leu Phe Val Phe Val Val Ser Ile Asn Met
             20                  25



<210> 152
<211> 18
<212> PRT
<213> Homo sapiens

<400> 152
Thr Lys Ser Ser Asp Phe Gly Gly Gly Cys Arg Asn Ala Ser Ser Ser
 1               5                   10                  15

Cys Cys



<210> 153
<211> 143
<212> PRT
<213> Homo sapiens

<400> 153
Met Val Cys Gly Trp Ile Ile Tyr Gly Ser Phe Ile Tyr Leu Ser Ser
 1               5                   10                  15

His Cys Ala Thr Thr Phe Lys Glu Asp Gly Leu Trp Thr Tyr Leu Asn
             20                  25                  30

Gln Ile Val Ala Cys Ser Pro Trp Val Leu Tyr Ile Leu Met Leu Ala
         35                  40                  45

Thr Phe His Phe Ser Trp Ser Thr Phe Leu Leu Leu Asn Gln Leu Phe
     50                  55                  60

Gln Ile Ala Phe Leu Gly Leu Thr Ser His Glu Arg Ile Ser Leu Gln
 65                  70                  75                  80

Lys Gln Ser Lys His Met Lys Gln Thr Leu Ser Leu Arg Lys Thr Pro
                 85                  90                  95

Tyr Asn Leu Gly Phe Met Gln Asn Leu Ala Asp Phe Phe Gln Cys Gly
```

```
    210                 215                 220

Gly Pro Ser Arg His Pro Ser Leu Ile Ser Ser Asp Ser Asn Asn Leu
225                 230                 235                 240

Lys Leu Asn Asn Val Arg Leu Pro Arg Glu Asn Met Ser Leu Pro Ser
                245                 250                 255

Asn Leu Gln Leu Asn Asp Leu Thr Pro Asp Ser Arg Ala Val Lys Pro
            260                 265                 270

Ala Asp Arg Gln Met Ala Gln Asn Asn Ser Arg Pro Glu Leu Leu Asp
        275                 280                 285

Pro Glu Pro Gly Gly Leu Leu Thr Ser Gln Gly Phe Ile Arg Leu Pro
    290                 295                 300

Val Leu Gly Tyr Ile Tyr Arg Val Ser Ser Val Ser Ser Asp Glu Ile
305                 310                 315                 320

Trp Leu



<210> 148
<211> 25
<212> PRT
<213> Homo sapiens

<400> 148
Met Ile Ser Leu Leu Trp Thr Leu Lys Leu Phe Ser Arg Asn Leu Asp
  1               5                  10                  15

Tyr Ser Gln Lys Arg Lys Ser Trp Cys
             20                  25



<210> 149
<211> 25
<212> PRT
<213> Homo sapiens

<400> 149
Met Ile Ser Leu Leu Trp Thr Leu Lys Leu Phe Ser Arg Asn Leu Asp
  1               5                  10                  15

Tyr Ser Gln Lys Arg Lys Ser Trp Cys
             20                  25



<210> 150
<211> 18
<212> PRT
<213> Homo sapiens

<400> 150
Thr Lys Ser Ser Asp Phe Gly Gly Gly Cys Arg Asn Ala Ser Ser Ser
```

```
Ala Asp Arg Gln Met Ala Gln Asn Asn Ser Arg Pro Glu Leu Leu Asp
         275                 280                 285

Pro Glu Pro Gly Gly Leu Leu Thr Ser Gln Gly Phe Ile Arg Leu Pro
     290                 295                 300

Val Leu Gly Tyr Ile Tyr Arg Xaa Ser Ser Val Ser Ser Asp Glu Ile
305                 310                 315                 320

Trp Leu




<210> 147
<211> 322
<212> PRT
<213> Homo sapiens

<400> 147
Met Ala Leu Pro Pro Gly Pro Ala Ala Leu Arg His Thr Leu Leu Leu
 1               5                   10                  15

Leu Pro Ala Leu Leu Ser Ser Gly Trp Gly Glu Leu Glu Pro Gln Ile
             20                  25                  30

Asp Gly Gln Thr Trp Ala Glu Arg Ala Leu Arg Glu Asn Glu Arg His
         35                  40                  45

Ala Phe Thr Cys Arg Val Ala Gly Gly Pro Gly Thr Pro Arg Leu Ala
     50                  55                  60

Trp Tyr Leu Asp Gly Gln Leu Gln Glu Ala Ser Thr Ser Arg Leu Leu
 65                  70                  75                  80

Ser Val Gly Gly Glu Ala Phe Ser Gly Gly Thr Ser Thr Phe Thr Val
                 85                  90                  95

Thr Ala His Arg Ala Gln His Glu Leu Asn Cys Ser Leu Gln Asp Pro
             100                 105                 110

Arg Ser Gly Arg Ser Ala Asn Ala Ser Val Ile Leu Asn Val Gln Phe
         115                 120                 125

Lys Pro Glu Ile Ala Gln Val Gly Ala Lys Tyr Gln Glu Ala Gln Gly
     130                 135                 140

Pro Gly Leu Leu Val Val Leu Phe Ala Leu Val Arg Ala Asn Pro Pro
 145                 150                 155                 160

Ala Asn Val Thr Trp Ile Asp Gln Asp Gly Pro Val Thr Val Asn Thr
                 165                 170                 175

Ser Asp Phe Leu Val Leu Asp Ala Gln Asn Tyr Pro Trp Leu Thr Asn
             180                 185                 190

His Thr Val Gln Leu Gln Leu Arg Ser Leu Ala His Asn Leu Ser Val
         195                 200                 205

Val Ala Thr Asn Asp Val Gly Val Thr Ser Ala Ser Leu Pro Ala Pro
```

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<222> (250)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (312)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 146
Met Ala Leu Pro Pro Gly Pro Ala Ala Leu Arg His Thr Leu Leu Leu
  1               5                  10                  15

Leu Pro Ala Leu Leu Ser Ser Gly Trp Gly Glu Leu Glu Pro Gln Ile
             20                  25                  30

Asp Gly Gln Thr Trp Ala Glu Arg Ala Leu Arg Glu Asn Glu Arg His
         35                  40                  45

Ala Phe Thr Cys Arg Val Ala Gly Gly Pro Gly Thr Pro Arg Leu Ala
     50                  55                  60

Trp Tyr Leu Asp Gly Gln Leu Gln Glu Ala Ser Thr Ser Arg Leu Leu
 65                  70                  75                  80

Ser Val Gly Gly Glu Ala Phe Ser Gly Gly Thr Ser Thr Phe Thr Val
                 85                  90                  95

Thr Ala His Arg Ala Gln His Glu Leu Asn Cys Ser Leu Gln Asp Pro
            100                 105                 110

Arg Ser Gly Arg Ser Ala Asn Ala Ser Val Ile Leu Asn Val Gln Phe
        115                 120                 125

Lys Pro Xaa Ile Ala Gln Val Gly Ala Lys Tyr Gln Glu Ala Gln Gly
    130                 135                 140

Pro Gly Leu Leu Val Val Leu Phe Ala Leu Val Arg Ala Asn Pro Pro
145                 150                 155                 160

Ala Asn Val Thr Trp Ile Asp Gln Asp Gly Pro Val Thr Val Asn Thr
                165                 170                 175

Ser Asp Phe Leu Val Leu Asp Ala Xaa Asn Tyr Pro Trp Leu Thr Asn
            180                 185                 190

His Thr Val Gln Leu Gln Leu Arg Ser Leu Ala His Asn Leu Ser Val
        195                 200                 205

Val Ala Thr Asn Asp Val Gly Val Thr Xaa Ala Xaa Leu Pro Ala Pro
    210                 215                 220

Gly Pro Ser Arg His Pro Ser Leu Ile Ser Ser Asp Ser Asn Asn Leu
225                 230                 235                 240

Lys Leu Asn Asn Val Arg Leu Pro Arg Xaa Asn Met Ser Leu Pro Ser
                245                 250                 255

Asn Leu Gln Leu Asn Asp Leu Thr Pro Asp Ser Arg Ala Val Lys Pro
            260                 265                 270
```

```
Trp Pro Lys Thr Leu Val Glu Glu Gln Asn
        35                  40



<210> 144
<211> 23
<212> PRT
<213> Homo sapiens

<400> 144
Ala Trp Ile Gln Cys Thr Leu Leu Leu Tyr Pro Arg Arg Thr Ser Gln
 1               5                  10                  15

Gly Ile His Gln Val Pro Gly
            20



<210> 145
<211> 20
<212> PRT
<213> Homo sapiens

<400> 145
Leu Leu Met Arg Gln Pro Trp Val Gly Gln Gly Trp Gly Pro Val Val
 1               5                  10                  15

Glu Glu Thr Cys
            20



<210> 146
<211> 322
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (131)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (185)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (218)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (220)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
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```
Leu Cys Cys Ser Ser Val Ser Glu Leu Pro Tyr Leu Phe Leu Val Cys
        35                  40                  45

Ser Thr Tyr Lys Cys Ser Cys His Ala Val Leu Phe Phe Cys
    50                  55                  60



<210> 141
<211> 76
<212> PRT
<213> Homo sapiens

<400> 141
Ile Asn Phe Thr Tyr Lys Arg Leu Ser Leu Asp Phe Ile Tyr Ile Tyr
 1               5                  10                  15

Met Cys Val Cys Val Cys Val Cys Val Cys Val Cys Val Cys Val Tyr
            20                  25                  30

Leu Lys Arg Thr Cys Ala Ser Ile Lys Gly Asn Lys Met Arg Glu Tyr
        35                  40                  45

Ile Ile Asp Phe Val Lys Ser Lys Tyr Leu Asn Tyr Gly Phe Ser Ile
    50                  55                  60

Phe Lys Asn Ser Cys Ser Phe Cys Thr Tyr Phe Phe
65                  70                  75



<210> 142
<211> 42
<212> PRT
<213> Homo sapiens

<400> 142
Met Phe Leu Phe Ile Thr Phe Thr Ile Leu Ala Ile Phe Ile Ile Glu
 1               5                  10                  15

Pro Arg Asn Leu Arg Val Asp Leu Asn Leu Ile Lys Phe Gln Thr Ser
            20                  25                  30

Trp Pro Lys Thr Leu Val Glu Glu Gln Asn
        35                  40



<210> 143
<211> 42
<212> PRT
<213> Homo sapiens

<400> 143
Met Phe Leu Phe Ile Thr Phe Thr Ile Leu Ala Ile Phe Ile Ile Glu
 1               5                  10                  15

Pro Arg Asn Leu Arg Val Asp Leu Asn Leu Ile Lys Phe Gln Thr Ser
            20                  25                  30
```

305 310 315 320

Leu Asp Leu Leu Phe Leu Ser Gln Gly Gly Leu Cys Ala Ala Leu Gly
325 330 335

Glu Ser Cys Cys Phe Tyr Ala Asn Gln Ser Gly Val Ile Lys Gly Thr
340 345 350

Val Lys Lys Val Arg Glu Asn Leu Asp Arg His Gln Gln Glu Arg Glu
355 360 365

Asn Asn Ile Pro Trp Tyr Gln Ser Met Phe Asn Trp Asn Pro Trp Leu
370 375 380

Thr Thr Leu Ile Thr Gly Leu Ala Gly Pro Leu Leu Ile Leu Leu Leu
385 390 395 400

Ser Leu Ile Phe Gly Pro Cys Ile Leu Asn Ser Phe Leu Asn Phe Ile
405 410 415

Lys Gln Arg Ile Ala Ser Val Lys Leu Thr Tyr Leu Lys Thr Gln Tyr
420 425 430

Asp Thr Leu Val Asn Asn
435

<210> 139
<211> 62
<212> PRT
<213> Homo sapiens

<400> 139
Met Phe Cys Arg Asn Trp Arg Cys Glu Phe Met Met Leu Ser His Asn
1 5 10 15

Thr Ala Val Met Ile Cys Ser Phe Ser Gln Asn Asp Phe His Ala Ala
20 25 30

Leu Cys Cys Ser Ser Val Ser Glu Leu Pro Tyr Leu Phe Leu Val Cys
35 40 45

Ser Thr Tyr Lys Cys Ser Cys His Ala Val Leu Phe Phe Cys
50 55 60

<210> 140
<211> 62
<212> PRT
<213> Homo sapiens

<400> 140
Met Phe Cys Arg Asn Trp Arg Cys Glu Phe Met Met Leu Ser His Asn
1 5 10 15

Thr Ala Val Met Ile Cys Ser Phe Ser Gln Asn Asp Phe His Ala Ala
20 25 30

```
<400> 138
Leu Thr Ile Thr Val His Asp Pro Asn Ala Ala Gln Trp Tyr Tyr Gly
 1               5                   10                  15

Met Ser Trp Gly Leu Arg Leu Tyr Ile Pro Gly Phe Asp Val Gly Thr
            20                  25                  30

Met Phe Thr Ile Gln Lys Lys Ile Leu Val Ser Trp Ser Pro Pro Lys
        35                  40                  45

Pro Ile Arg Pro Leu Thr Asp Leu Gly Asp Pro Ile Phe Gln Lys His
    50                  55                  60

Pro Asp Lys Val Asp Leu Thr Val Pro Gln Pro Phe Leu Val Pro Arg
65                  70                  75                  80

Pro Gln Leu Gln Gln Gln His Leu Gln Pro Ser Leu Met Ser Ile Leu
                85                  90                  95

Gly Gly Val His His Leu Leu Asn Leu Thr Gln Pro Lys Leu Ala Gln
            100                 105                 110

Asp Cys Trp Leu Cys Leu Lys Ala Lys Pro Pro Tyr Tyr Val Gly Leu
        115                 120                 125

Gly Val Glu Ala Thr Leu Lys Arg Gly Pro Leu Ser Cys His Thr Arg
    130                 135                 140

Pro Arg Ala Leu Thr Ile Gly Asp Val Ser Gly Asn Ala Ser Cys Leu
145                 150                 155                 160

Ile Ser Thr Gly Tyr Asn Leu Ser Ala Ser Pro Phe Gln Ala Thr Cys
                165                 170                 175

Asn Gln Ser Leu Leu Thr Tyr Ile Ser Thr Ser Val Ser Tyr Gln Ala
            180                 185                 190

Pro Asn Asn Thr Trp Leu Ala Cys Thr Ser Gly Leu Thr Arg Cys Ile
        195                 200                 205

Asn Gly Thr Glu Pro Gly Pro Leu Leu Cys Val Leu Val His Val Leu
    210                 215                 220

Pro Gln Val Tyr Val Tyr Ser Gly Pro Glu Gly Arg Gln Leu Ile Ala
225                 230                 235                 240

Pro Pro Glu Leu His Pro Arg Leu His Gln Ala Val Pro Leu Leu Val
                245                 250                 255

Pro Leu Leu Ala Gly Leu Ser Ile Ala Gly Ser Ala Ala Ile Gly Thr
            260                 265                 270

Ala Ala Leu Val Gln Gly Glu Thr Gly Leu Ile Ser Leu Ser Gln Gln
        275                 280                 285

Val Asp Ala Asp Phe Ser Asn Leu Gln Ser Ala Ile Asp Ile Leu His
    290                 295                 300

Ser Gln Val Glu Ser Leu Ala Glu Val Val Leu Gln Asn Cys Arg Cys
```

```
Ile Ser Thr Gly Tyr Asn Leu Ser Ala Ser Pro Phe Gln Ala Thr Cys
                165                 170                 175

Asn Gln Ser Leu Leu Thr Tyr Ile Ser Thr Ser Val Ser Tyr Gln Ala
            180                 185                 190

Pro Asn Asn Thr Trp Leu Ala Cys Thr Ser Gly Leu Thr Arg Cys Ile
        195                 200                 205

Asn Gly Thr Glu Pro Gly Pro Leu Leu Cys Val Leu Val His Val Leu
    210                 215                 220

Pro Gln Val Tyr Val Tyr Ser Gly Pro Glu Gly Arg Gln Leu Ile Ala
225                 230                 235                 240

Pro Pro Glu Leu His Pro Arg Leu His Gln Ala Val Pro Leu Leu Val
                245                 250                 255

Pro Leu Leu Ala Gly Leu Ser Ile Ala Gly Ser Ala Ala Ile Gly Thr
            260                 265                 270

Ala Ala Leu Val Gln Gly Glu Thr Gly Leu Ile Ser Leu Ser Gln Gln
        275                 280                 285

Val Asp Ala Asp Phe Ser Asn Leu Gln Ser Ala Ile Asp Ile Leu His
    290                 295                 300

Ser Gln Val Glu Ser Leu Ala Glu Val Val Leu Gln Asn Cys Arg Cys
305                 310                 315                 320

Leu Asp Leu Leu Phe Leu Ser Gln Gly Gly Leu Cys Ala Ala Leu Gly
                325                 330                 335

Glu Ser Cys Cys Phe Tyr Ala Asn Gln Ser Gly Val Ile Lys Gly Thr
            340                 345                 350

Val Lys Lys Val Arg Glu Asn Leu Asp Arg His Gln Gln Glu Arg Glu
        355                 360                 365

Asn Asn Ile Pro Trp Tyr Gln Ser Met Phe Asn Trp Asn Pro Trp Leu
    370                 375                 380

Thr Thr Leu Ile Thr Gly Leu Ala Gly Pro Leu Leu Ile Leu Leu Leu
385                 390                 395                 400

Ser Leu Ile Phe Gly Pro Cys Ile Leu Asn Ser Phe Leu Asn Phe Ile
                405                 410                 415

Lys Gln Arg Ile Ala Ser Val Lys Leu Thr Tyr Leu Lys Thr Gln Tyr
            420                 425                 430

Asp Thr Leu Val Asn Asn
        435


<210> 138
<211> 438
<212> PRT
<213> Homo sapiens
```

```
<211> 63
<212> PRT
<213> Homo sapiens

<400> 136
Phe Leu His Val Phe Thr Ser Val Glu Leu Leu Arg Leu Ser Ser Pro
 1               5                  10                  15

Pro Leu Pro Lys Pro Lys Tyr Lys Arg Lys Ser Ser Pro Leu Leu Met
            20                  25                  30

Ala Glu Arg Ile Leu Ser Val Ser Gly Leu Phe Gly His Arg Leu Asn
        35                  40                  45

Lys Gly Leu Leu Ile His Pro Lys Lys Lys Lys Lys Lys Leu Glu
    50                  55                  60



<210> 137
<211> 438
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (42)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 137
Leu Thr Ile Thr Val His Asp Pro Asn Ala Ala Gln Trp Tyr Tyr Gly
 1               5                  10                  15

Met Ser Trp Gly Leu Arg Leu Tyr Ile Pro Gly Phe Asp Val Gly Thr
            20                  25                  30

Met Phe Thr Ile Gln Lys Lys Ile Leu Xaa Ser Trp Ser Pro Pro Lys
        35                  40                  45

Pro Ile Arg Pro Leu Thr Asp Leu Gly Asp Pro Ile Phe Gln Lys His
    50                  55                  60

Pro Asp Lys Val Asp Leu Thr Val Pro Gln Pro Phe Leu Val Pro Arg
65                  70                  75                  80

Pro Gln Leu Gln Gln Gln His Leu Gln Pro Ser Leu Met Ser Ile Leu
                85                  90                  95

Gly Gly Val His His Leu Leu Asn Leu Thr Gln Pro Lys Leu Ala Gln
            100                 105                 110

Asp Cys Trp Leu Cys Leu Lys Ala Lys Pro Pro Tyr Tyr Val Gly Leu
        115                 120                 125

Gly Val Glu Ala Thr Leu Lys Arg Gly Pro Leu Ser Cys His Thr Arg
    130                 135                 140

Pro Arg Ala Leu Thr Ile Gly Asp Val Ser Gly Asn Ala Ser Cys Leu
145                 150                 155                 160
```

```
            180                 185                 190

Gln Thr Lys Leu Pro Leu Gln Arg Ser Ala Ala Arg Leu Leu Phe Ser
        195                 200                 205

Phe Tyr Lys Asp Gly Arg Ile Val Gln Ser Arg Gly Leu Ser Ser Glu
    210                 215                 220

Phe Gln Ile Pro Thr Ala Ser Glu Asp His Ser Gly Ser Tyr Trp Cys
225                 230                 235                 240

Glu Ala Ala Thr Glu Asp Asn Gln Val Trp Lys Gln Ser Pro Gln Leu
                245                 250                 255

Glu Ile Arg Val Gln Gly Ala Ser Ser Ser Ala Ala Pro Pro Thr Leu
            260                 265                 270

Asn Pro Ala Pro Gln Lys Ser Ala Ala Pro Gly Thr Ala Pro Glu Glu
        275                 280                 285

Ala Pro Gly Pro Leu Pro Pro Pro Pro Thr Pro Ser Ser Glu Asp Pro
    290                 295                 300

Gly Phe Ser Ser Pro Leu Gly Met Pro Asp Pro His Leu Tyr His Gln
305                 310                 315                 320

Met Gly Leu Leu Leu Lys His Met Gln Asp Val Arg Val Leu Leu Gly
                325                 330                 335

His Leu Leu Met Glu Leu Arg Glu Leu Ser Gly His Arg Lys Pro Gly
            340                 345                 350

Thr Thr Lys Ala Thr Ala Glu
        355


<210> 134
<211> 5
<212> PRT
<213> Homo sapiens

<400> 134
Met Ser Arg Leu Leu
 1               5


<210> 135
<211> 5
<212> PRT
<213> Homo sapiens

<400> 135
Met Ser Arg Leu Leu
 1               5


<210> 136
```

```
Gln Gly Trp Lys Asp Ser Ala Lys Gln Gly Gly Ser Pro Gln Asn Ser
            180                 185                 190

Arg Ser Pro Gln Leu Gln Lys
        195



<210> 132
<211> 2
<212> PRT
<213> Homo sapiens

<400> 132
Ser Trp
  1



<210> 133
<211> 359
<212> PRT
<213> Homo sapiens

<400> 133
Met Lys Leu Gly Cys Val Leu Met Ala Trp Ala Leu Tyr Leu Ser Leu
  1               5                  10                  15

Gly Val Leu Trp Val Ala Gln Met Leu Leu Ala Ala Ser Phe Glu Thr
             20                  25                  30

Leu Gln Cys Glu Gly Pro Val Cys Thr Glu Glu Ser Ser Cys His Thr
         35                  40                  45

Glu Asp Asp Leu Thr Asp Ala Arg Glu Ala Gly Phe Gln Val Lys Ala
     50                  55                  60

Tyr Thr Phe Ser Glu Pro Phe His Leu Ile Val Ser Tyr Asp Trp Leu
 65                  70                  75                  80

Ile Leu Gln Gly Pro Ala Lys Pro Val Phe Glu Gly Asp Leu Leu Val
                 85                  90                  95

Leu Arg Cys Gln Ala Trp Gln Asp Trp Pro Leu Thr Gln Val Thr Phe
            100                 105                 110

Tyr Arg Asp Gly Ser Ala Leu Gly Pro Pro Gly Pro Asn Arg Glu Phe
        115                 120                 125

Ser Ile Thr Val Val Gln Lys Ala Asp Ser Gly His Tyr His Cys Ser
    130                 135                 140

Gly Ile Phe Gln Ser Pro Gly Pro Gly Ile Pro Glu Thr Ala Ser Val
145                 150                 155                 160

Val Ala Ile Thr Val Gln Glu Leu Phe Pro Ala Pro Ile Leu Arg Ala
                165                 170                 175

Val Pro Ser Ala Glu Pro Gln Ala Gly Gly Pro Met Thr Leu Ser Cys
```

<210> 130
<211> 32
<212> PRT
<213> Homo sapiens

<400> 130
Cys Leu Glu Thr Phe Trp Ser Leu Tyr Leu Gly Gly Trp Gly Met Val
1 5 10 15

Gly Cys Val Cys Tyr Trp His Pro Val Asn Arg Ser Gln Gly Cys Arg
20 25 30

<210> 131
<211> 199
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (142)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 131
Met Lys Leu Gly Cys Val Leu Met Ala Trp Ala Leu Tyr Leu Ser Leu
1 5 10 15

Gly Val Leu Trp Val Ala Gln Met Leu Leu Ala Ala Ser Phe Glu Thr
20 25 30

Leu Gln Cys Glu Gly Pro Val Cys Thr Glu Glu Ser Ser Cys His Thr
35 40 45

Glu Asp Asp Leu Thr Asp Ala Arg Glu Ala Gly Phe Gln Val Lys Ala
50 55 60

Tyr Thr Phe Ser Glu Pro Phe His Leu Ile Val Ser Tyr Asp Trp Leu
65 70 75 80

Ile Leu Gln Gly Pro Ala Lys Pro Val Phe Glu Gly Asp Leu Leu Val
85 90 95

Leu Arg Cys Gln Ala Trp Gln Asp Trp Pro Leu Thr Gln Val Thr Phe
100 105 110

Tyr Arg Asp Gly Ser Ala Leu Gly Pro Pro Gly Pro Asn Arg Glu Phe
115 120 125

Ser Ile Thr Val Val Gln Lys Ala Asp Ser Gly His Tyr Xaa Cys Ser
130 135 140

Gly Ile Phe Gln Ser Pro Gly Pro Gly Ile Pro Glu Thr Ala Ser Val
145 150 155 160

Val Ala Ile Thr Val Gln Glu Leu Phe Pro Ala Pro Ile Leu Leu Leu
165 170 175

```
Xaa His Lys Thr Phe Pro Ser Glu Gly Ser Ser Cys Leu Ser Ser Val
 1               5                  10                  15

Thr Leu Xaa Thr Thr Ala Gln Ala Tyr Phe Thr Leu Pro Pro Pro Thr
            20                  25                  30

His His Cys Pro Leu Ser Ala Thr Lys Pro His Tyr Ser Ser Asn Asp
        35                  40                  45

Ala Ser Leu Val Ser Gly Lys Pro Ile Trp Cys Thr Lys Met Leu Cys
    50                  55                  60

Asn Thr Lys Trp Leu Leu Pro Leu Ile Leu Leu Asn Asn Val Asn Ser
65                  70                  75                      80

Xaa Arg Ile Asn Phe Met Leu Cys
                85
```

<210> 128
<211> 56
<212> PRT
<213> Homo sapiens

<400> 128

```
Met Trp Lys Val Leu Arg Pro Ser Leu Phe Thr Ala Gly Leu Phe Thr
 1               5                  10                  15

Ala Ser Phe Phe Tyr Ser Asp Leu Lys Val Ser Thr Glu Leu Met Lys
            20                  25                  30

Leu Gln His Met Val Phe Lys Ser Phe Pro Leu Lys Cys Thr Leu Glu
        35                  40                  45

Asn Trp Val Pro Gln Pro His Tyr
    50                  55
```

<210> 129
<211> 58
<212> PRT
<213> Homo sapiens

<400> 129

```
Met Trp Lys Val Leu Arg Pro Ser Leu Phe Thr Ala Gly Leu Phe Thr
 1               5                  10                  15

Ala Ser Phe Phe Tyr Ser Asp Leu Lys Val Ser Thr Glu Leu Met Lys
            20                  25                  30

Leu Gln His Met Val Phe Lys Ser Phe Pro Leu Lys Cys Thr Leu Glu
        35                  40                  45

Asn Trp Val Pro Gln Pro Gln Leu Leu Asn
    50                  55
```

```
Ser Met Trp Val Leu Pro Pro Gly Thr Phe Thr Asp Ala Phe Pro Gly
385                 390                 395                 400

Leu Leu Phe His Phe Pro Arg Arg Ser Gln Lys Asp Cys Leu Leu Gly
                405                 410                 415

Leu Ser Lys Ser Asp Gln Arg Ala Met Ala Cys Tyr Phe Gly Ile Leu
            420                 425                 430

Leu Ile Val Ser Ala Thr Leu Cys Phe Gly Met Leu Arg Gly Phe Leu
        435                 440                 445

Met Thr Leu Pro Gln Lys Arg Lys Ser Phe Gln Ser Lys Ser Phe Val
    450                 455                 460

Arg Leu Lys Asp Val Thr Ala Tyr Met Trp Glu Lys Val Leu Thr Phe
465                 470                 475                 480

Leu Arg Leu Glu Thr Pro Lys Leu Glu Glu Ala Glu Met Val Glu Asn
                485                 490                 495

His Asn Tyr Tyr Leu Asp Glu Phe Ala Asn Leu Leu Asp Glu Leu Leu
            500                 505                 510

Met Lys Ile Asn Gly Leu Ser Asp Ser Leu Gln Leu Pro Leu Leu Glu
        515                 520                 525

Lys Thr Ser Asn Asn Thr Gly Glu Ala Arg Thr Glu Glu Ser Pro Leu
    530                 535                 540

Val Asp Ile Ser Ser Tyr Gln Ala Ala Glu Pro Ala Asp Ile Lys Asp
545                 550                 555                 560

Phe



<210> 127
<211> 88
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (1)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (19)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (81)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 127
```

```
Gly Thr Pro Ser Ala Arg Val Pro Gly Ala Gln Pro Gly Ala Leu Gly
65                  70                  75                  80

Gly Lys Cys Tyr Leu Ile Gly Ser Ser Val Ile Arg Gln Leu Lys Val
                85                  90                  95

Phe Pro Arg His Leu Cys Lys Pro Pro Arg Pro Phe Ser Ala Leu Ile
            100                 105                 110

Glu Asp Ser Ile Pro Thr Cys Ser Pro Glu Val Gly Gly Pro Glu Asn
        115                 120                 125

Pro Tyr Leu Ile Asp Pro Glu Asn Gln Asn Val Thr Leu Asn Gly Pro
    130                 135                 140

Gly Gly Cys Gly Thr Arg Glu Asp Cys Val Leu Ser Leu Gly Arg Thr
145                 150                 155                 160

Arg Thr Glu Ala His Thr Ala Leu Ser Arg Leu Arg Ala Ser Met Trp
                165                 170                 175

Ile Asp Arg Ser Thr Arg Ala Val Ser Val His Phe Thr Leu Tyr Asn
            180                 185                 190

Pro Pro Thr Gln Leu Phe Thr Ser Val Ser Leu Arg Val Glu Ile Leu
        195                 200                 205

Pro Thr Gly Ser Leu Val Pro Ser Ser Leu Val Glu Ser Phe Ser Ile
    210                 215                 220

Phe Arg Ser Asp Ser Ala Leu Gln Tyr His Leu Met Leu Pro Gln Leu
225                 230                 235                 240

Val Phe Leu Ala Leu Ser Leu Ile His Leu Cys Val Gln Leu Tyr Arg
                245                 250                 255

Met Met Asp Lys Gly Val Leu Ser Tyr Trp Arg Lys Pro Arg Asn Trp
            260                 265                 270

Leu Glu Leu Ser Val Val Gly Val Ser Leu Thr Tyr Tyr Ala Val Ser
        275                 280                 285

Gly His Leu Val Thr Leu Ala Gly Asp Val Thr Asn Gln Phe His Arg
    290                 295                 300

Gly Leu Cys Arg Ala Phe Met Asp Leu Thr Leu Met Ala Ser Trp Asn
305                 310                 315                 320

Gln Arg Ala Arg Trp Leu Arg Gly Ile Leu Leu Phe Leu Phe Thr Leu
                325                 330                 335

Lys Cys Val Tyr Leu Pro Gly Ile Gln Asn Thr Met Ala Ser Cys Ser
            340                 345                 350

Ser Met Met Arg His Ser Leu Pro Ser Ile Phe Val Ala Gly Leu Val
        355                 360                 365

Gly Ala Leu Met Leu Ala Ala Leu Ser His Leu His Arg Phe Leu Leu
    370                 375                 380
```

100 105 110

Thr Gly

<210> 125
<211> 85
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (81)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (84)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 125
Met Asp Ile Leu Met Leu Leu Leu Leu Leu Cys Val Ile Tyr Gly Arg
1 5 10 15

Phe Ser Gln Asp Glu Tyr Ser Leu Asn Gln Ala Ile Arg Lys Glu Phe
20 25 30

Thr Arg Asn Ala Arg Asn Cys Leu Gly Gly Leu Arg Asn Ile Ala Asp
35 40 45

Trp Trp Asp Trp Ser Leu Thr Thr Leu Leu Asp Gly Leu Tyr Pro Gly
50 55 60

Gly Thr Pro Ser Ala Arg Val Pro Gly Ala Ser Ala Trp Ser Ser Trp
65 70 75 80

Xaa Lys Met Xaa Thr
85

<210> 126
<211> 561
<212> PRT
<213> Homo sapiens

<400> 126
Met Asp Ile Leu Met Leu Leu Leu Leu Leu Cys Val Ile Tyr Gly Arg
1 5 10 15

Phe Ser Gln Asp Glu Tyr Ser Leu Asn Gln Ala Ile Arg Lys Glu Phe
20 25 30

Thr Arg Asn Ala Arg Asn Cys Leu Gly Gly Leu Arg Asn Ile Ala Asp
35 40 45

Trp Trp Asp Trp Ser Leu Thr Thr Leu Leu Asp Gly Leu Tyr Pro Gly
50 55 60

```
<400> 123
Met Gly Asn Gln Asp Glu Asn Gln Gly Leu Ser Val Ile Arg Leu Leu
 1               5                   10                  15

Leu Ile Ile Thr Ile Arg Arg Val Gln Met Trp Asp Lys Ile Leu Thr
             20                  25                  30

Pro Ala Phe Ser Gln Met Val Asn Leu Pro Val Ala Leu Glu Leu His
         35                  40                  45

Ile Val Leu Phe Val Cys Phe Thr Glu Ser Val
     50                  55



<210> 124
<211> 114
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (7)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (22)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (24)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (111)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 124
Gln Arg Ala Met Ala Cys Xaa Phe Gly Ile Leu Leu Ile Val Ser Ala
 1               5                   10                  15

Thr Leu Cys Phe Gly Xaa Leu Xaa Gly Phe Leu Met Thr Leu Pro Gln
             20                  25                  30

Lys Arg Lys Ser Phe Gln Ser Lys Ser Phe Val Arg Leu Lys Asp Val
         35                  40                  45

Thr Ala Tyr Met Trp Glu Lys Val Leu Thr Phe Leu Arg Leu Glu Thr
     50                  55                  60

Pro Lys Leu Glu Glu Ala Glu Met Val Glu Asn His Asn Tyr Tyr Leu
 65                  70                  75                  80

Asp Glu Phe Ala Asn Leu Leu Asp Glu Leu Leu Met Lys Ile Asn Gly
                 85                  90                  95

Leu Ser Asp Ser Leu Gln Leu Pro Leu Leu Glu Lys Thr Ser Xaa Asn
```

```
Lys Val Ile Leu Gln Asn Leu Lys His Ser Leu Phe Leu Ser Leu Leu
            20                  25                  30

Ser His Tyr Phe Tyr Ser Asn Pro Leu Glu Tyr Leu His Phe Ala Ser
        35                  40                  45

Glu Gln Arg Asp Lys Phe Phe Ser His His Val Cys Thr Gly Val Val
    50                  55                  60

Leu Ile Leu Asp Ile Ala Gly Thr Asn Phe Ser
65                  70                  75



<210> 121
<211> 56
<212> PRT
<213> Homo sapiens

<400> 121
Met Met Ile Tyr Phe Ala Leu Leu Leu Ala Ser Leu Phe Phe Leu Leu
 1               5                  10                  15

Lys Val Lys Ser His Phe Gly Cys Lys Asn Val Thr Thr Thr Ser Ala
            20                  25                  30

Arg Ile Phe Leu Lys Pro Leu Cys Thr Pro Lys Ser Ile Phe Pro Leu
        35                  40                  45

Ser Arg Tyr Gly Arg Met Ser Ser
    50                  55



<210> 122
<211> 56
<212> PRT
<213> Homo sapiens

<400> 122
Met Met Ile Tyr Phe Ala Leu Leu Leu Ala Ser Leu Phe Phe Leu Leu
 1               5                  10                  15

Lys Val Lys Ser His Phe Gly Cys Lys Asn Val Thr Thr Thr Ser Ala
            20                  25                  30

Arg Ile Phe Leu Lys Pro Leu Cys Thr Pro Lys Ser Ile Phe Pro Leu
        35                  40                  45

Ser Arg Tyr Gly Arg Met Ser Ser
    50                  55



<210> 123
<211> 59
<212> PRT
<213> Homo sapiens
```

```
 1               5



<210> 117
<211> 14
<212> PRT
<213> Homo sapiens

<400> 117
Gly Cys Ser Leu Tyr Asn Ser Phe Asn Asn Leu Leu Cys Leu
 1               5                   10



<210> 118
<211> 4
<212> PRT
<213> Homo sapiens

<400> 118
Leu Arg Glu Leu
 1



<210> 119
<211> 91
<212> PRT
<213> Homo sapiens

<400> 119
Met Val Leu Arg Gly Trp Gly Leu Ala Trp Ser Leu Ser Pro Val Val
 1               5                   10                  15

Cys Gly Tyr Ser Gly Asp Met Lys Gly Val Cys Trp Gly Arg Ser Asp
             20                  25                  30

His Ser Leu Leu Pro Ser Glu Ile Leu Leu Pro Pro Ala Pro Cys Pro
         35                  40                  45

Ser Ser Ala Val Leu His Asn Pro Pro Pro Thr Pro His Leu Pro Ser
     50                  55                  60

Pro Val Leu Val Arg Ile Gln Glu Ala Pro Thr Trp Ala Gln Arg Ser
 65                  70                  75                  80

Ser Leu Gly Ala Ser Pro Leu His Lys Gly Asp
                 85                  90



<210> 120
<211> 75
<212> PRT
<213> Homo sapiens

<400> 120
Glu Asp Met Pro Arg Arg Lys Glu Glu Leu Thr Asp Tyr Gln Lys Lys
 1               5                   10                  15
```

Ile Cys Trp Leu Thr Lys Lys Lys Tyr Ser Ser Ser Val His Asp Pro
165 170 175

Asn Gly Glu Tyr Met Phe Met Arg Ala Val Asn Thr Ala Lys Lys Ser
180 185 190

Arg Leu Thr Asp Val Thr Leu
195

<210> 115
<211> 91
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (12)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (49)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (51)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 115
Met Val Leu Arg Gly Trp Gly Leu Ala Trp Ser Xaa Ser Pro Val Val
1 5 10 15

Cys Gly Tyr Ser Gly Asp Met Lys Gly Val Cys Trp Gly Arg Ser Asp
20 25 30

His Ser Leu Leu Pro Ser Glu Ile Leu Leu Pro Pro Ala Pro Cys Pro
35 40 45

Xaa Ser Xaa Val Leu His Asn Pro Pro Pro Thr Pro His Leu Pro Ser
50 55 60

Pro Val Leu Val Arg Ile Gln Glu Ala Pro Thr Trp Ala Gln Arg Ser
65 70 75 80

Ser Leu Gly Ala Ser Pro Leu His Lys Gly Asp
85 90

<210> 116
<211> 6
<212> PRT
<213> Homo sapiens

<400> 116
Trp Ala Leu Pro Met Ser

```
                    85                  90                  95

Tyr Asn Leu Asp His Ser His Ala Asn Tyr Tyr Phe Cys Asn Leu Ser
            100                 105                 110

Ile Phe Asp Pro Pro Pro Phe Lys Val Thr Leu Thr Gly Gly Tyr Leu
        115                 120                 125

His Ile Tyr Glu Ser Gln Leu Cys Cys Gln Leu Lys Phe Trp Leu Pro
    130                 135                 140

Ile Gly Cys Ala Ala Phe Val Val Val Cys Ile Leu Gly Cys Ile Leu
145                 150                 155                 160

Ile Cys Trp Leu Thr Lys Lys Lys Tyr Ser Ser Ser Val His Asp Pro
                165                 170                 175

Asn Gly Glu Tyr Met Phe Met Arg Ala Val Asn Thr Ala Lys Lys Ser
            180                 185                 190

Arg Leu Thr Asp Val Thr Leu
        195
```

```
<210> 114
<211> 199
<212> PRT
<213> Homo sapiens

<400> 114
Met Lys Ser Gly Leu Trp Tyr Phe Phe Leu Phe Cys Leu Arg Ile Lys
 1               5                  10                  15

Val Leu Thr Gly Glu Ile Asn Gly Ser Ala Asn Tyr Glu Met Phe Ile
            20                  25                  30

Phe His Asn Gly Gly Val Gln Ile Leu Cys Lys Tyr Pro Asp Ile Val
        35                  40                  45

Gln Gln Phe Lys Met Gln Leu Leu Lys Gly Gly Gln Ile Leu Cys Asp
    50                  55                  60

Leu Thr Lys Thr Lys Gly Ser Gly Asn Thr Val Ser Ile Lys Ser Leu
65                  70                  75                  80

Lys Phe Cys His Ser Gln Leu Ser Asn Asn Ser Val Ser Phe Phe Leu
                85                  90                  95

Tyr Asn Leu Asp His Ser His Ala Asn Tyr Tyr Phe Cys Asn Leu Ser
            100                 105                 110

Ile Phe Asp Pro Pro Pro Phe Lys Val Thr Leu Thr Gly Gly Tyr Leu
        115                 120                 125

His Ile Tyr Glu Ser Gln Leu Cys Cys Gln Leu Lys Phe Trp Leu Pro
    130                 135                 140

Ile Gly Cys Ala Ala Phe Val Val Val Cys Ile Leu Gly Cys Ile Leu
145                 150                 155                 160
```

```
Gly Arg Pro Arg Leu Gln Ala Pro Ala Val Glu Thr Leu Lys Gly Asn
 65                 70                  75                  80

Lys Gln Pro Ser Thr Leu Pro Asp Pro Arg Leu Phe Arg Glu Ala Ala
                85                  90                  95

His Phe His Pro Gly Pro Arg Thr Pro Ser Leu Cys Pro Thr Arg Ile
            100                 105                 110

Ser Leu Asn Gly Arg Asp
        115


<210> 112
<211> 74
<212> PRT
<213> Homo sapiens

<400> 112
Leu Ala Leu His Arg Cys Ser Leu Ser Cys Leu Gln Val Ser Val Cys
  1               5                  10                  15

Gly Val Gly Tyr Gly Glu Glu Asn Leu His Gly Gly Pro Pro Gly Leu
             20                  25                  30

Val Val Gln Ala Val Pro Arg His Ile Leu Ile Pro Ser Met Gly His
         35                  40                  45

Leu Lys Met Asn Asn Asn Ser Gln Asn Phe Cys Glu Ile Lys Ser Ser
     50                  55                  60

Phe Lys Arg Ser His Leu Ser Lys Arg Phe
 65                  70


<210> 113
<211> 199
<212> PRT
<213> Homo sapiens

<400> 113
Met Lys Ser Gly Leu Trp Tyr Phe Phe Leu Phe Cys Leu Arg Ile Lys
  1               5                  10                  15

Val Leu Thr Gly Glu Ile Asn Gly Ser Ala Asn Tyr Glu Met Phe Ile
             20                  25                  30

Phe His Asn Gly Gly Val Gln Ile Leu Cys Lys Tyr Pro Asp Ile Val
         35                  40                  45

Gln Gln Phe Lys Met Gln Leu Leu Lys Gly Gly Gln Ile Leu Cys Asp
     50                  55                  60

Leu Thr Lys Thr Lys Gly Ser Gly Asn Thr Val Ser Ile Lys Ser Leu
 65                  70                  75                  80

Lys Phe Cys His Ser Gln Leu Ser Asn Asn Ser Val Ser Phe Phe Leu
```

```
Ser Leu Asn Gly Arg Asp
        115



<210> 110
<211> 157
<212> PRT
<213> Homo sapiens

<400> 110
Ser Cys Leu Pro Pro Leu Pro Leu Asn Leu Pro Leu Pro Pro Cys Leu
 1               5                   10                  15

Cys Pro Leu Leu Gln Leu Asn Ala Ala Met Thr Arg Lys Glu Lys Thr
                 20                  25                  30

Lys Glu Gly Gln Arg Ala Ala Gln Phe Ser Ala Gly Ala Asp Ala Gly
         35                  40                  45

Ser Gly Gly Gly Leu Ser Arg Gln Lys Asp Thr Lys Arg Pro Met Leu
     50                  55                  60

Leu Val Ile His Asp Val Val Leu Glu Leu Leu Thr Ser Ser Asp Cys
 65                  70                  75                  80

His Ala Asn Pro Arg Lys Tyr Pro Thr Cys Gln Lys Ser Glu Val Leu
                 85                  90                  95

Gly Val Ser Ile Tyr Val Ser Ile Cys Pro Ser Thr Arg Pro Arg Asp
            100                 105                 110

Lys Asn Lys Thr Lys Lys Arg Cys Gln Val Leu Glu Ala Val Leu Val
        115                 120                 125

Ser Lys Pro Ser Gly Ser Cys His Gln Gly Ser Phe Glu Ile Val Pro
    130                 135                 140

His Val Lys Gly Asn Leu Ala Phe Thr Ser Ser Asn His
145                 150                 155



<210> 111
<211> 118
<212> PRT
<213> Homo sapiens

<400> 111
Met Glu Phe Val Ser Gly Gly Lys Thr Glu Ile Leu Met Leu Phe Thr
 1               5                   10                  15

Leu Leu Val Ser Cys Tyr Val Phe Leu Pro Leu Ala Leu Pro Cys Phe
                 20                  25                  30

Ala Phe Phe Phe Ser Phe Trp Pro Ile Pro Phe Tyr Met Cys Pro Gln
         35                  40                  45

Gln Arg Trp Gly Asp Thr Glu His Pro Gly Ser Phe Pro Ala Leu Leu
     50                  55                  60
```

```
Phe Val Ser Phe Phe Arg Pro Leu Gln Lys Cys Lys Asn His Ser
             20                  25                  30


<210> 107
<211> 26
<212> PRT
<213> Homo sapiens

<400> 107
Glu Ile Met Thr Arg Thr Asp Trp Val Lys Met Trp Phe Val Phe Leu
 1               5                   10                  15

Leu Gln Leu Ala Pro Ala Cys Pro Pro Arg
             20                  25


<210> 108
<211> 31
<212> PRT
<213> Homo sapiens

<400> 108
Met Phe Glu Ala Leu Trp Ala Thr Asp Tyr Leu Cys Cys Leu Phe Leu
 1               5                   10                  15

Phe Val Ser Phe Phe Arg Pro Leu Gln Lys Cys Lys Asn His Ser
             20                  25                  30


<210> 109
<211> 118
<212> PRT
<213> Homo sapiens

<400> 109
Met Glu Phe Val Ser Gly Gly Lys Thr Glu Ile Leu Met Leu Phe Thr
 1               5                   10                  15

Leu Leu Val Ser Cys Tyr Val Phe Leu Pro Leu Ala Leu Pro Cys Phe
             20                  25                  30

Ala Phe Phe Phe Ser Phe Trp Pro Ile Pro Phe Tyr Met Cys Pro Gln
         35                  40                  45

Gln Arg Trp Gly Asp Thr Glu His Pro Gly Ser Phe Pro Ala Leu Leu
     50                  55                  60

Gly Arg Pro Arg Leu Gln Ala Pro Ala Val Glu Thr Leu Lys Gly Asn
 65                  70                  75                  80

Lys Gln Pro Ser Thr Leu Pro Asp Pro Arg Leu Phe Arg Glu Ala Ala
                 85                  90                  95

His Phe His Pro Gly Pro Arg Thr Pro Ser Leu Cys Pro Thr Arg Ile
            100                 105                 110
```

```
<220>
<221> SITE
<222> (69)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (76)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 104
Met Leu Val Lys Gly Glu Gly Val Arg Leu Val Leu Arg Leu Leu Gly
 1               5                  10                  15

Arg Asn Gly Leu His Leu Ala Pro Leu Pro Ala Leu Leu Leu His Phe
            20                  25                  30

Leu Met Leu Pro Leu Ser Ala Pro Val Xaa Tyr Ser Leu Pro Ala Gly
        35                  40                  45

Xaa Cys Leu Gln Gly Thr Gly Ser Ser Ser Phe Tyr Ser Val Lys Phe
    50                  55                  60

Ser Gly Ser Leu Xaa Gly Gly Lys Gly Lys Pro Xaa Asn Trp Pro
 65                  70                  75


<210> 105
<211> 71
<212> PRT
<213> Homo sapiens

<400> 105
Met Leu Val Lys Gly Glu Gly Val Arg Leu Val Leu Arg Leu Leu Gly
 1               5                  10                  15

Arg Asn Gly Leu His Leu Ala Pro Leu Pro Ala Leu Leu Leu His Phe
            20                  25                  30

Leu Met Leu Pro Leu Ser Ala Pro Val Ala Tyr Ser Leu Pro Ala Gly
        35                  40                  45

Ala Cys Leu Gln Gly Thr Gly Ser Ser Ser Leu Leu Leu Cys Gln Val
    50                  55                  60

Gln Leu Leu Thr Ala Arg Glu
 65                  70


<210> 106
<211> 31
<212> PRT
<213> Homo sapiens

<400> 106
Met Phe Glu Ala Leu Trp Ala Thr Asp Tyr Leu Cys Cys Leu Phe Leu
 1               5                  10                  15
```

```
Leu Asp Ile Asp Pro Asn Ile Tyr Leu Glu Tyr Asn Phe Phe Glu Thr
145                 150                 155                 160

Thr Ile Lys Phe Ala Pro Ala Asn Leu Gly Tyr Ala Arg Gly Val Asp
                165                 170                 175

Pro Pro Pro Cys Asp Ala Gly Thr Asp Gln Asp Ser Arg Trp Arg Leu
            180                 185                 190

Gln Tyr Asp Val Tyr Gln Tyr Phe Leu Pro Glu Asn Asp Leu Thr Glu
        195                 200                 205

Glu Met Leu Leu Lys His Leu Gln Arg Met Val Ser Val Pro Gln Val
    210                 215                 220

Lys Ala Ser Ala Leu Lys Val Val Thr Leu Thr Ala Asn Asp Lys Thr
225                 230                 235                 240

Ser Val Ser Phe Ser Ser Leu Pro Gly Gln Gly Val Ile Tyr Asn Val
                245                 250                 255

Ile Val Trp Asp Leu Phe Leu Asn Thr Ser Ala Ala Tyr Ile Pro Ala
            260                 265                 270

His Thr Tyr Ala Cys Ser Phe Glu Ala Gly Glu Gly Ser Cys Ala Ser
        275                 280                 285

Leu Gly Arg Val Ser Ser Lys Val Phe Phe Thr Leu Phe Ala Leu Leu
    290                 295                 300

Gly Phe Phe Ile Cys Phe Phe Gly Gln Arg Phe Trp Lys Thr Glu Leu
305                 310                 315                 320

Phe Phe Ile Gly Phe Ile Ile Met Gly Phe Phe Phe Tyr Ile Leu Ile
                325                 330                 335

Thr Arg Leu Thr Pro Ile Lys Tyr Asp Ala Glu His Thr Asp Leu Trp
            340                 345                 350

Ser His Trp Leu Leu Phe Gly Gly Phe Ser His
        355                 360
```

```
<210> 104
<211> 79
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (42)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (49)
<223> Xaa equals any of the naturally occurring L-amino acids
```

```
    290                 295                 300

Ile Thr Leu Asn Val Leu Lys Arg Ala Leu Asn Lys Asp Phe His Arg
305                 310                 315                 320

Ala Phe Thr Asn Val Pro Phe Gln Thr Asn Asp Phe Ile Ile Leu Ala
                325                 330                 335

Val Trp Gly Met Leu Ala Val Ser Gly Ile Thr Leu Gln Ile Arg Arg
            340                 345                 350

Glu Arg Gly Arg Pro Phe Phe Pro Pro His Pro Tyr Lys Leu Trp Lys
        355                 360                 365

Gln Glu Arg Glu Arg Arg Val Thr Asn Ile Leu Asp Pro Ser Tyr His
    370                 375                 380

Ile Pro Pro Leu Arg Glu Arg Leu Tyr Gly Arg Leu Thr Gln Ile Lys
385                 390                 395                 400

Gly Leu Phe Gln Lys Glu Gln Pro Ala Gly Glu Arg Thr Pro Leu Leu
                405                 410                 415

Leu




<210> 103
<211> 363
<212> PRT
<213> Homo sapiens

<400> 103
Met Gly Phe Leu Gln Leu Leu Val Val Ala Val Leu Ala Ser Glu His
 1               5                  10                  15

Arg Val Ala Gly Ala Ala Glu Val Phe Gly Asn Ser Ser Glu Gly Leu
            20                  25                  30

Ile Glu Phe Ser Val Gly Lys Phe Arg Tyr Phe Glu Leu Asn Arg Pro
        35                  40                  45

Phe Pro Glu Glu Ala Ile Leu His Asp Ile Ser Ser Asn Val Thr Phe
    50                  55                  60

Leu Ile Phe Gln Ile His Ser Gln Tyr Gln Asn Thr Thr Val Ser Phe
65                  70                  75                  80

Ser Pro Thr Leu Leu Ser Asn Ser Ser Glu Thr Gly Thr Ala Ser Gly
                85                  90                  95

Leu Val Phe Ile Leu Arg Pro Glu Gln Ser Thr Cys Thr Trp Tyr Leu
            100                 105                 110

Gly Thr Ser Gly Ile Gln Pro Val Gln Asn Met Ala Ile Leu Leu Ser
        115                 120                 125

Tyr Ser Glu Arg Asp Pro Val Pro Gly Gly Cys Asn Leu Glu Phe Asp
    130                 135                 140
```

```
<211> 417
<212> PRT
<213> Homo sapiens

<400> 102
Leu Phe Leu Phe Ser Lys Tyr Thr His Ser Ile Arg Ile Gln Leu Phe
 1               5                   10                  15

Pro Phe Leu Arg Gly Val Asp Pro Pro Pro Cys Asp Ala Gly Thr Asp
             20                  25                  30

Gln Asp Ser Arg Trp Arg Leu Gln Tyr Asp Val Tyr Gln Tyr Phe Leu
         35                  40                  45

Pro Glu Asn Asp Leu Thr Glu Glu Met Leu Leu Lys His Leu Gln Arg
     50                  55                  60

Met Val Ser Val Pro Gln Val Lys Ala Ser Ala Leu Lys Val Val Thr
 65                  70                  75                  80

Leu Thr Ala Asn Asp Lys Thr Ser Val Ser Phe Ser Ser Leu Pro Gly
                 85                  90                  95

Gln Gly Val Ile Tyr Asn Val Ile Val Trp Asp Pro Phe Leu Asn Thr
            100                 105                 110

Ser Ala Ala Tyr Ile Pro Ala His Thr Tyr Ala Cys Ser Phe Glu Ala
        115                 120                 125

Gly Glu Gly Ser Cys Ala Ser Leu Gly Arg Val Ser Ser Lys Val Phe
    130                 135                 140

Phe Thr Leu Phe Ala Leu Leu Gly Phe Phe Ile Cys Phe Phe Gly His
145                 150                 155                 160

Arg Phe Trp Lys Thr Glu Leu Phe Phe Ile Gly Phe Ile Ile Met Gly
                165                 170                 175

Phe Phe Phe Tyr Ile Leu Ile Thr Arg Leu Thr Pro Ile Lys Tyr Asp
            180                 185                 190

Val Asn Leu Ile Leu Thr Ala Val Thr Gly Ser Val Gly Gly Met Phe
        195                 200                 205

Leu Val Ala Val Trp Trp Arg Phe Gly Ile Leu Ser Ile Cys Met Leu
    210                 215                 220

Cys Val Gly Leu Val Leu Gly Phe Leu Ile Ser Ser Val Thr Phe Phe
225                 230                 235                 240

Thr Pro Leu Gly Asn Leu Lys Ile Phe His Asp Asp Gly Val Phe Trp
                245                 250                 255

Val Thr Phe Ser Cys Ile Ala Ile Leu Ile Pro Val Val Phe Met Gly
            260                 265                 270

Cys Leu Arg Ile Leu Asn Ile Leu Thr Cys Gly Val Ile Gly Ser Tyr
        275                 280                 285

Ser Val Val Leu Ala Ile Asp Ser Tyr Trp Ser Thr Ser Leu Ser Tyr
```

<223> Xaa equals any of the naturally occurring L-amino acids

<400> 101

```
Met Gly Phe Leu Gln Leu Leu Val Val Ala Val Leu Ala Ser Glu His
1               5                   10                  15

Arg Val Ala Gly Ala Ala Glu Val Phe Gly Asn Ser Ser Glu Gly Leu
            20                  25                  30

Ile Glu Phe Ser Val Gly Lys Phe Arg Tyr Phe Glu Leu Asn Arg Pro
        35                  40                  45

Phe Pro Glu Glu Ala Ile Leu His Asp Ile Ser Ser Asn Val Thr Phe
    50                  55                  60

Leu Ile Phe Gln Ile His Ser Gln Tyr Gln Asn Thr Thr Val Ser Phe
65                  70                  75                  80

Ser Pro Thr Leu Leu Ser Asn Ser Ser Glu Thr Gly Thr Ala Ser Gly
                85                  90                  95

Leu Val Phe Ile Leu Arg Pro Glu Gln Ser Thr Cys Thr Trp Tyr Leu
            100                 105                 110

Gly Thr Ser Gly Ile Gln Pro Val Gln Asn Met Ala Ile Leu Leu Ser
        115                 120                 125

Tyr Ser Glu Arg Asp Pro Val Pro Gly Gly Cys Asn Leu Glu Phe Asp
    130                 135                 140

Leu Asp Ile Asp Pro Asn Ile Tyr Leu Glu Tyr Asn Phe Phe Glu Thr
145                 150                 155                 160

Thr Ile Lys Phe Ala Pro Ala Asn Leu Gly Tyr Ala Arg Gly Val Asp
                165                 170                 175

Pro Pro Pro Cys Asp Ala Gly Thr Asp Gln Asp Ser Arg Trp Arg Leu
            180                 185                 190

Gln Tyr Asp Val Tyr Gln Tyr Phe Leu Pro Glu Asn Asp Leu Thr Glu
        195                 200                 205

Glu Met Leu Leu Lys His Leu Gln Arg Met Val Ser Val Pro Gln Val
    210                 215                 220

Lys Ala Ser Ala Leu Lys Val Val Thr Leu Thr Ala Asn Asp Lys Thr
225                 230                 235                 240

Ser Val Ser Phe Ser Ser Leu Pro Gly Gln Gly Val Ile Tyr Asn Val
                245                 250                 255

Ile Val Xaa Gly Pro Xaa Ser Lys Tyr Ile Cys Cys Leu His Ser Cys
            260                 265                 270

Ser His Ile Arg Leu Gln Leu Xaa Arg Ala Gly Arg Gly
        275                 280                 285
```

<210> 102

His Val Asp Leu Ser His Asn Leu Ile His Arg Leu Val Pro His Pro
                165   170   175

Thr Arg Ala Gly Leu Pro Ala Pro Thr Ile Gln Ser Leu Asn Leu Ala
            180   185   190

Trp Asn Arg Leu His Ala Val Pro Asn Leu Arg Asp Leu Pro Leu Arg
        195   200   205

Tyr Leu Ser Leu Asp Gly Asn Pro Leu Ala Val Ile Gly Pro Gly Ala
    210   215   220

Phe Ala Gly Leu Gly Gly Leu Thr His Leu Ser Leu Ala Ser Leu Gln
225   230   235   240

Arg Leu Pro Glu Leu Ala Pro Ser Gly Phe Arg Glu Leu Pro Gly Leu
                245   250   255

Gln Val Leu Asp Leu Ser Gly Asn Pro Lys Leu Asn Trp Ala Gly Ala
            260   265   270

Glu Val Phe Ser Gly Leu Ser Ser Leu Gln Glu Leu Asp Leu Ser Gly
        275   280   285

Thr Asn Leu Val Pro Leu Pro Glu Ala Leu Leu Leu His Leu Pro Ala
    290   295   300

Leu Gln Ser Val Ser Val Gly Gln Asp Val Arg Cys Arg Arg Leu Val
305   310   315   320

Arg Glu Gly Thr Tyr Pro Arg Arg Pro Gly Ser Ser Pro Lys Val Ala
                325   330   335

Leu His Cys Val Asp Thr Arg Glu Ser Ala Ala Arg Gly Pro Thr Ile
            340   345   350

Leu

<210> 101
<211> 285
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (259)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (262)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (280)

```
                245                 250                 255

Gln Val Leu Xaa Leu Ser Gly Asn Pro Lys Leu Asn Trp Ala Gly Ala
            260                 265                 270

Glu Val Phe Ser Gly Leu Ser Ser Leu Gln Glu Leu Asp Leu Ser Gly
        275                 280                 285

Thr Asn Leu Val Pro Leu Pro Glu Ala Leu Leu Leu His Leu Pro Ala
    290                 295                 300

Leu Gln Ser Val Ser Val Gly Gln Asp Val Arg Cys Arg Arg Leu Val
305                 310                 315                 320

Arg Glu Gly Thr Tyr Pro Arg Arg Pro Gly Ser Ser Pro Lys Val Ala
                325                 330                 335

Leu His Cys Val Asp Thr Arg Glu Ser Ala Ala Arg Gly Pro Thr Ile
            340                 345                 350

Leu



<210> 100
<211> 353
<212> PRT
<213> Homo sapiens

<400> 100
Met Pro Trp Pro Leu Leu Leu Leu Leu Ala Val Ser Gly Ala Gln Thr
  1                   5                  10                  15

Thr Arg Pro Cys Phe Pro Gly Cys Gln Cys Glu Val Glu Thr Phe Gly
             20                  25                  30

Leu Phe Asp Ser Phe Ser Leu Thr Arg Val Asp Cys Ser Gly Leu Gly
         35                  40                  45

Pro His Ile Met Pro Val Pro Ile Pro Leu Asp Thr Ala His Leu Asp
     50                  55                  60

Leu Ser Ser Asn Arg Leu Glu Met Val Asn Glu Ser Val Leu Ala Gly
 65                  70                  75                  80

Pro Gly Tyr Thr Thr Leu Ala Gly Leu Asp Leu Ser His Asn Leu Leu
                 85                  90                  95

Thr Ser Ile Ser Pro Thr Ala Phe Ser Arg Leu Arg Tyr Leu Glu Ser
            100                 105                 110

Leu Asp Leu Ser His Asn Gly Leu Thr Ala Leu Pro Ala Glu Ser Phe
        115                 120                 125

Thr Ser Ser Pro Leu Ser Asp Val Asn Leu Ser His Asn Gln Leu Arg
    130                 135                 140

Glu Val Ser Val Ser Ala Phe Thr Thr His Ser Gln Gly Arg Ala Leu
145                 150                 155                 160
```

```
<210> 99
<211> 353
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (260)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 99
Met Pro Trp Pro Leu Leu Leu Leu Leu Ala Val Ser Gly Ala Gln Thr
1               5                   10                  15

Thr Arg Pro Cys Phe Pro Gly Cys Gln Cys Glu Val Glu Thr Phe Gly
            20                  25                  30

Leu Phe Asp Ser Phe Ser Leu Thr Arg Val Asp Cys Ser Gly Leu Gly
        35                  40                  45

Pro His Ile Met Pro Val Pro Ile Pro Leu Asp Thr Ala His Leu Asp
    50                  55                  60

Leu Ser Ser Asn Arg Leu Glu Met Val Asn Glu Ser Val Leu Ala Gly
65                  70                  75                  80

Pro Gly Tyr Thr Thr Leu Ala Gly Leu Asp Leu Ser His Asn Leu Leu
                85                  90                  95

Thr Ser Ile Ser Pro Thr Ala Phe Ser Arg Leu Arg Tyr Leu Glu Ser
            100                 105                 110

Leu Asp Leu Ser His Asn Gly Leu Thr Ala Leu Pro Ala Glu Ser Phe
        115                 120                 125

Thr Ser Ser Pro Leu Ser Asp Val Asn Leu Ser His Asn Gln Leu Arg
    130                 135                 140

Glu Val Ser Val Ser Ala Phe Thr Thr His Ser Gln Gly Arg Ala Leu
145                 150                 155                 160

His Val Asp Leu Ser His Asn Leu Ile His Arg Leu Val Pro His Pro
                165                 170                 175

Thr Arg Ala Gly Leu Pro Ala Pro Thr Ile Gln Ser Leu Asn Leu Ala
            180                 185                 190

Trp Asn Arg Leu His Ala Val Pro Asn Leu Arg Asp Leu Pro Leu Arg
        195                 200                 205

Tyr Leu Ser Leu Asp Gly Asn Pro Leu Ala Val Ile Gly Pro Gly Ala
    210                 215                 220

Phe Ala Gly Leu Gly Gly Leu Thr His Leu Ser Leu Ala Ser Leu Gln
225                 230                 235                 240

Arg Leu Pro Glu Leu Ala Pro Ser Gly Phe Arg Glu Leu Pro Gly Leu
Arg Ala Arg Gly Val Thr Ser Glu Ala Ile Val Thr Gly Arg Cys Asn
     50                  55                  60

His Cys Pro Asp Cys Gly Lys Ala Trp Arg Glu Gln Gly Glu Ser Thr
 65                  70                  75                  80

Pro Ser Thr Cys Pro Phe Asp Pro Leu Thr Cys Trp Trp Leu Ala Leu
                 85                  90                  95

Ala Lys Pro Glu Thr Gly Gly Gln Glu Pro Leu Ser Val Ala Ala Tyr
            100                 105                 110

Gly Gly Gln Pro Ser Glu Val Lys Ala Gly Gln Lys Val Glu Lys Gly
        115                 120                 125

Leu Gly Gly Thr His Gly Glu Gln Ser Thr Lys Phe Thr Pro Phe Val
    130                 135                 140

Xaa Trp His Trp Lys Ile
145                 150



<210> 96
<211> 35
<212> PRT
<213> Homo sapiens

<400> 96
Met Val Ser Lys Pro Trp Gly Val Phe Ile Ser Phe Ser Phe Ile Ser
  1               5                  10                  15

Leu Ser Phe Tyr His Ala Ile Ser Ile Ser Ser Val Pro Ser Gly Arg
             20                  25                  30

Gln Val Val
         35



<210> 97
<211> 13
<212> PRT
<213> Homo sapiens

<400> 97
Met Lys Ser Leu His Gly Arg Leu Leu Trp Gln Ser Ala
  1               5                  10



<210> 98
<211> 13
<212> PRT
<213> Homo sapiens

<400> 98
Met Lys Ser Leu His Gly Arg Leu Leu Trp Gln Ser Ala
  1               5                  10
```

```
Ser Phe Leu Thr Ile Lys Ser His Leu Gly Leu Glu Lys Lys Lys Lys
     50                  55                  60

Lys Thr Arg
 65



<210> 94
<211> 44
<212> PRT
<213> Homo sapiens

<400> 94
Met Leu Ser Ser Ile Leu Ser Gln Leu Met Val Ser Lys Pro Trp Gly
  1               5                  10                  15

Val Phe Ile Ser Phe Ser Phe Ile Ser Leu Ser Phe Tyr His Ala Ile
             20                  25                  30

Ser Ile Ser Ser Val Pro Ser Gly Arg Gln Val Val
         35                  40



<210> 95
<211> 150
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (12)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (38)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (43)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (145)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 95
Cys Pro Pro Pro Pro Lys Arg Gly Gly Ile Glu Xaa Glu Leu Gly Lys
  1               5                  10                  15

Leu Trp Pro Thr Phe Glu Thr Phe Arg Ala Asn Arg Arg Thr Met Leu
             20                  25                  30

Leu Glu Pro Leu Gly Xaa Pro Gly Gly Gly Xaa Arg Pro Phe Trp Lys
         35                  40                  45
```

```
             20


<210> 91
<211> 67
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (13)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 91
Pro Gln Ser Pro Gln Arg Gly Cys Tyr Ser Met Leu Xaa Val Leu Ser
  1               5                  10                  15

Val Ser His Pro Gln Pro Asn Lys Trp Arg Cys Val Val Pro Arg Gly
             20                  25                  30

Pro Phe Ser His Cys Leu Ala Ser Arg Arg Gly Val Leu Gln Gly Tyr
         35                  40                  45

Ser Phe Val Cys Thr Cys Arg Leu Val Gly Pro Glu Phe Phe Ser His
     50                  55                  60

Val Gln Glu
 65



<210> 92
<211> 21
<212> PRT
<213> Homo sapiens

<400> 92
Asp Leu His Ile Lys Leu Leu Glu His Tyr Cys Leu Thr Ser Cys Lys
  1               5                  10                  15

Lys Val Leu Gln Leu
             20



<210> 93
<211> 67
<212> PRT
<213> Homo sapiens

<400> 93
Asp Gly Ala Pro Gly Pro Arg Val Gly His Gly His Pro Gly Trp Leu
  1               5                  10                  15

Gly Arg Arg Arg Gln Ala Leu His Val Leu Gln Leu Gly Met Trp Val
             20                  25                  30

Arg Glu Gly Ile Trp Phe Cys Tyr Leu Ala Val Val Phe Ser His Pro
         35                  40                  45
```

```
65                  70                  75                  80

Cys Cys Ala Pro Gly Gly Ala Thr His Leu Pro Gly Asn Ser Thr Phe
                85                  90                  95

Ser His Ala Pro Asp Cys Ser Leu His Ser Ser Arg Leu Ala Gln Ser
            100                 105                 110

Pro Val Thr His Cys Ser Ser Gly Ser Leu Gly Leu Ser Ala His Gly
        115                 120                 125

His Leu His Ala His Pro Ser Ile Ser Val Ser Pro His Leu Ser Leu
    130                 135                 140

Ser Ile Ser Asn Pro Cys Ser Ser Thr Lys His
145                 150                 155



<210> 89
<211> 91
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (41)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 89
Val Trp Arg Arg Cys Val Ser Trp Arg Ser Ile Arg Ala Gln Val Thr
 1               5                  10                  15

Phe Pro Glu Asp Phe Leu Ser Leu Ser Ser Ser Val Gln Phe Gln Val
            20                  25                  30

Ile His Val Leu Leu Asp Pro Gly Xaa Thr Gly Ile Ser Thr Asp Leu
        35                  40                  45

Leu Ala Ser Phe Gly Leu Glu Tyr His Ser Trp Leu Gly Ala Glu Ala
    50                  55                  60

Ala Gly Leu Ile Val Ile Tyr His Lys Val Ala Arg Lys Leu Pro Arg
 65                  70                  75                  80

Gly Val Arg Lys Ala Ala Gly Gly Gly Arg Val
                85                  90



<210> 90
<211> 21
<212> PRT
<213> Homo sapiens

<400> 90
Asp Leu His Ile Lys Leu Leu Glu His Tyr Cys Leu Thr Ser Cys Lys
 1               5                  10                  15

Lys Val Leu Gln Leu
```

```
<400> 86
Cys His Pro Gln Gln Pro Ser Cys Arg Ile Pro Leu Phe Val Leu Phe
 1               5                   10                  15

Ile Ser Gln Thr Ser Gln His Leu Gly Xaa Ile Glu Gly Ala Tyr Val
            20                  25                  30

Glu Ile Leu Gly Ala Gly Ser Pro Asn Thr Ser Glu Thr Ile Pro Asn
        35                  40                  45

Asn



<210> 87
<211> 52
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (50)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 87
Lys Glu Pro Thr Leu Lys Tyr Trp Gly Arg Val Pro Pro Ile Leu Leu
 1               5                   10                  15

Lys Leu Phe Gln Thr Ile Glu Lys Glu Gly His Leu Pro Asn Ser Phe
            20                  25                  30

Tyr Glu Ala Ser Ile Ile Leu Ile Leu Lys Pro Gly Arg Asp Thr Ala
        35                  40                  45

Lys Xaa Lys Lys
    50



<210> 88
<211> 155
<212> PRT
<213> Homo sapiens

<400> 88
Met Phe Phe Phe Leu Phe Pro Trp Val Leu Leu Ser Leu Pro Ser Ser
 1               5                   10                  15

Ser Leu Pro Leu Ser Leu Leu Tyr Ser Ser Leu Ser Leu Ser Ile Cys
            20                  25                  30

Pro Ser Leu Leu Gln Val Leu Pro Gln Pro Gln Asp Ser Ser Ala Ser
        35                  40                  45

Leu Asp Thr Ser His Pro Ala Pro Asp Arg Ser Pro Pro Ser Leu Leu
    50                  55                  60

Ile Leu Arg Ala Leu Ser Ser Ile Cys Leu Ser Pro Cys Gln Arg Pro
```

```
        115                 120                 125

Leu Tyr Arg Val Thr Val Ala Thr Ile Leu Tyr Phe Ser Trp Phe Asn
    130                 135                 140

Val Ala Glu Gly Arg Thr Arg Gly Arg Ala Ile Ile His Phe Ala Phe
145                 150                 155                 160

Leu Leu Ser Asp Ser Ile Leu Leu Val Ala Thr Trp Val Thr His Ser
                165                 170                 175

Ser Trp Leu Pro Ser Gly Ile Pro Leu Gln Leu Trp Leu Pro Val Gly
            180                 185                 190

Cys Gly Cys Phe Phe Leu Gly Leu Ala Leu Arg Leu Val Tyr Tyr His
        195                 200                 205

Trp Leu His Pro Ser Cys Cys Trp Lys Pro Asp Pro Asp Gln Val Asp
    210                 215                 220

Gly Ala Arg Ser Leu Leu Ser Pro Glu Gly Tyr Gln Leu Pro Gln Asn
225                 230                 235                 240

Arg Arg Met Thr His Leu Ala Gln Lys Phe Phe Pro Lys Ala Lys Asp
                245                 250                 255

Glu Ala Ala Ser Pro Val Lys Gly
            260


<210> 85
<211> 57
<212> PRT
<213> Homo sapiens

<400> 85
Met Asn Val Phe Leu Ser Leu Pro Leu Gly Ser Ser Leu Pro Pro Leu
 1               5                  10                  15

Leu Phe Pro Pro Ser Leu Pro Ser Leu Phe Phe Pro Leu Pro Leu Tyr
            20                  25                  30

Leu Ser Phe Ser Ala Pro Ser Pro Ala Thr Thr Pro Gly Phe Ile Ser
        35                  40                  45

Leu Pro Gly His Ile Pro Ser Ser Ser
    50                  55


<210> 86
<211> 49
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (26)
<223> Xaa equals any of the naturally occurring L-amino acids
```

```
<220>
<221> SITE
<222> (82)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 83
Leu Pro Tyr Pro Gly Leu Gly Gly His Arg Gly Cys Pro Leu Glu Phe
 1               5                   10                  15

Phe Leu Pro Ser Pro Thr Pro Phe Ile Gln Phe Met Lys Gln Ile Phe
            20                  25                  30

Ala Lys Ser Ser Leu Cys Ala Arg Asn Ile Ile Leu Ser Leu Gln Pro
        35                  40                  45

Gly Thr Arg Pro Ala Thr Ser Leu Ala Ser Ser Xaa Thr Cys Thr Asn
    50                  55                  60

Gln Ser Arg Val Arg Ser Gln Met Xaa Glu Xaa Arg Asp Ala Gln Leu
65                  70                  75                  80

Trp Xaa Ala Pro Val Arg Thr Ser Gly Ile Ser Val Lys Leu Ala Trp
                85                  90                  95

Pro Leu Leu Leu Leu Ser Arg Gly Cys Phe Ser Thr Lys Ser Leu Val
            100                 105                 110

Ser Leu Val
        115


<210> 84
<211> 264
<212> PRT
<213> Homo sapiens

<400> 84
Met Leu Arg Leu Phe Glu Thr Phe Leu Glu Thr Ala Pro Gln Leu Thr
 1               5                   10                  15

Leu Val Leu Ala Ile Met Leu Gln Ser Gly Arg Ala Glu Tyr Tyr Gln
            20                  25                  30

Trp Val Gly Ile Cys Thr Ser Phe Leu Gly Ile Ser Trp Ala Leu Leu
        35                  40                  45

Asp Tyr His Arg Ala Leu Arg Thr Cys Leu Pro Ser Lys Pro Leu Leu
    50                  55                  60

Gly Leu Gly Ser Ser Val Ile Tyr Phe Leu Trp Asn Leu Leu Leu Leu
65                  70                  75                  80

Trp Pro Arg Val Leu Ala Val Ala Leu Phe Ser Ala Leu Phe Pro Ser
                85                  90                  95

Tyr Val Ala Leu His Phe Leu Gly Leu Trp Leu Val Leu Leu Leu Trp
            100                 105                 110

Val Trp Leu Gln Gly Thr Asp Phe Met Pro Asp Pro Ser Ser Glu Trp
```

```
65                  70                  75                  80

Trp Pro Arg Val Leu Ala Val Ala Leu Phe Ser Ala Leu Phe Pro Ser
                85                  90                  95

Tyr Val Ala Leu His Phe Leu Gly Leu Trp Leu Val Leu Leu Leu Trp
            100                 105                 110

Val Trp Leu Gln Gly Thr Asp Phe Met Pro Asp Pro Ser Ser Glu Trp
        115                 120                 125

Leu Tyr Arg Val Thr Val Ala Thr Ile Leu Tyr Phe Ser Trp Phe Asn
    130                 135                 140

Val Ala Glu Gly Arg Thr Arg Gly Arg Ala Ile Ile His Phe Ala Phe
145                 150                 155                 160

Leu Leu Ser Asp Ser Ile Leu Leu Val Ala Thr Trp Val Thr His Ser
                165                 170                 175

Ser Trp Leu Pro Ser Gly Ile Pro Leu Gln Leu Trp Leu Pro Val Gly
            180                 185                 190

Cys Gly Cys Xaa Phe Leu Gly Leu Ala Leu Arg Leu Val Tyr Tyr His
        195                 200                 205

Trp Leu His Pro Ser Cys Cys Trp Lys Pro Asp Pro Asp Gln Val Xaa
    210                 215                 220

Gly Ala Arg Ser Leu Leu Ser Pro Xaa Gly Tyr Gln Leu Pro Gln Asn
225                 230                 235                 240

Arg Arg Met Thr His Leu Ala Gln Lys Phe Phe Pro Lys Ala Lys Asp
                245                 250                 255

Glu Ala Ala Ser Pro Val Lys Gly
            260


<210> 83
<211> 115
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (60)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (73)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (75)
<223> Xaa equals any of the naturally occurring L-amino acids
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Asn Pro Leu Ala Cys Phe Leu Ala Met Gly Val Leu Cys Arg Ser Leu
                325                 330                 335

Ala Gly Leu Gly Gly Leu Ser Leu Leu Gly Val Phe Cys Gly Gly Tyr
            340                 345                 350

Leu Met Ala Leu Ala Val Leu Ser Pro Cys Pro Pro Leu Val Gly Thr
        355                 360                 365

Ser Ala Gly Val Val Leu Val Val Leu Ser Trp Val Leu Cys Leu Gly
    370                 375                 380

Val Phe Ser Tyr Val Lys Val Ala Ala Ser Ser Leu Leu His Gly Gly
385                 390                 395                 400

Gly Arg Pro Ala Leu Leu Ala Ala Gly Val Ala Ile Gln Val Gly Ser
                405                 410                 415

Leu Leu Gly Ala Val Ala Met Phe Pro Pro Thr Ser Ile Tyr His Val
            420                 425                 430

Phe His Ser Arg Lys Asp Cys Ala Asp Pro Cys Asp Ser
        435                 440                 445


<210> 82
<211> 264
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (196)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (224)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (233)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 82
Met Leu Arg Leu Phe Glu Thr Phe Leu Glu Thr Ala Pro Gln Leu Thr
  1               5                  10                  15

Leu Val Leu Ala Ile Met Leu Gln Ser Gly Arg Ala Glu Tyr Tyr Gln
             20                  25                  30

Trp Val Gly Ile Cys Thr Ser Phe Leu Gly Ile Ser Trp Ala Leu Leu
         35                  40                  45

Asp Tyr His Arg Ala Leu Arg Thr Cys Leu Pro Ser Lys Pro Leu Leu
     50                  55                  60

Gly Leu Gly Ser Ser Val Ile Tyr Phe Leu Trp Asn Leu Leu Leu Leu
```

```
Met Ala Ala Pro Thr Pro Ala Arg Pro Val Leu Thr His Leu Leu Val
1               5                   10                  15

Ala Leu Phe Gly Met Gly Ser Trp Ala Ala Val Asn Gly Ile Trp Val
            20                  25                  30

Glu Leu Pro Val Val Val Lys Glu Leu Pro Glu Gly Trp Ser Leu Pro
        35                  40                  45

Ser Tyr Val Ser Val Leu Val Ala Leu Gly Asn Leu Gly Leu Leu Val
    50                  55                  60

Val Thr Leu Trp Arg Arg Leu Ala Pro Gly Lys Asp Glu Gln Val Pro
65                  70                  75                  80

Ile Arg Val Val Gln Val Leu Gly Met Val Gly Thr Ala Leu Leu Ala
                85                  90                  95

Ser Leu Trp His His Val Ala Pro Val Ala Gly Gln Leu His Ser Val
            100                 105                 110

Ala Phe Leu Ala Leu Ala Phe Val Leu Ala Leu Ala Cys Cys Ala Pro
        115                 120                 125

Asn Val Thr Phe Leu Pro Phe Leu Ser His Leu Pro Pro Arg Phe Leu
    130                 135                 140

Arg Ser Phe Phe Leu Gly Gln Gly Leu Ser Ala Leu Leu Pro Cys Val
145                 150                 155                 160

Leu Ala Leu Val Gln Gly Val Gly Arg Leu Glu Cys Pro Pro Ala Pro
                165                 170                 175

Ile Asn Gly Thr Pro Gly Pro Pro Leu Asp Phe Leu Glu Arg Phe Pro
            180                 185                 190

Ala Ser Thr Phe Phe Trp Ala Leu Thr Ala Leu Leu Val Ala Ser Ala
        195                 200                 205

Ala Ala Phe Gln Gly Leu Leu Leu Leu Leu Pro Pro Pro Pro Ser Val
    210                 215                 220

Pro Thr Gly Glu Leu Gly Ser Gly Leu Gln Val Gly Ala Pro Gly Ala
225                 230                 235                 240

Glu Glu Glu Val Glu Glu Ser Ser Pro Leu Gln Glu Pro Pro Ser Gln
                245                 250                 255

Ala Ala Gly Thr Thr Pro Gly Pro Asp Pro Lys Ala Tyr Gln Leu Leu
            260                 265                 270

Ser Ala Arg Ser Ala Cys Leu Leu Gly Leu Leu Ala Ala Thr Asn Ala
        275                 280                 285

Leu Thr Asn Gly Val Leu Pro Ala Val Gln Ser Phe Ser Cys Leu Pro
    290                 295                 300

Tyr Gly Arg Leu Ala Tyr His Leu Ala Val Val Leu Gly Ser Ala Ala
305                 310                 315                 320
```

```
Ala Ala Phe Gln Gly Leu Leu Leu Leu Leu Pro Pro Pro Pro Ser Val
    210                 215                 220

Pro Thr Gly Glu Leu Gly Ser Gly Leu Gln Val Gly Ala Pro Gly Ala
225                 230                 235                 240

Glu Glu Glu Val Glu Glu Ser Ser Pro Leu Gln Glu Pro Pro Ser Gln
                245                 250                 255

Ala Ala Gly Thr Thr Pro Gly Pro Asp Pro Lys Ala Tyr Gln Leu Leu
            260                 265                 270

Ser Ala Arg Ser Ala Cys Leu Leu Gly Leu Leu Ala Ala Thr Asn Ala
        275                 280                 285

Leu Thr Asn Gly Val Leu Pro Ala Val Gln Ser Phe Ser Cys Leu Pro
    290                 295                 300

Tyr Gly Arg Leu Ala Tyr His Leu Ala Val Val Leu Gly Ser Ala Ala
305                 310                 315                 320

Asn Pro Leu Ala Cys Phe Leu Ala Met Gly Val Leu Cys Arg Tyr Thr
                325                 330                 335

Arg Thr Pro Ser Pro Cys Ala Gly Gly Thr Gln Gly Trp Glu Pro Gly
            340                 345                 350

Pro Gly Ala Val Ser Pro Asp Ile Leu Leu Ala His Cys Arg Ser Leu
        355                 360                 365

Ala Gly Leu Gly Gly Leu Ser Leu Leu Gly Val Phe Cys Gly Gly Tyr
    370                 375                 380

Leu Met Ala Leu Ala Val Leu Ser Pro Cys Pro Pro Leu Val Gly Thr
385                 390                 395                 400

Ser Ala Gly Val Val Leu Val Val Leu Ser Trp Val Leu Cys Leu Gly
                405                 410                 415

Val Phe Ser Tyr Val Lys Val Ala Ala Ser Ser Leu Leu His Gly Gly
            420                 425                 430

Gly Arg Pro Ala Leu Leu Ala Ala Gly Val Ala Ile Gln Val Gly Ser
        435                 440                 445

Leu Leu Gly Ala Val Ala Met Phe Pro Pro Thr Ser Ile Tyr His Val
    450                 455                 460

Phe His Ser Arg Lys Asp Cys Ala Asp Pro Cys Asp Ser
465                 470                 475


<210> 81
<211> 445
<212> PRT
<213> Homo sapiens

<400> 81
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         35                  40                  45

Thr Gln Gly Leu Ser Gln Ala Trp Pro Glu Val Gly Arg Gly Gln Arg
     50                  55                  60

Glu Pro His Arg Ser Leu Tyr Gln Pro Leu Ser Tyr His Arg Val Gly
 65                  70                  75                  80

Ala Leu Pro Ser His Arg Val Ser Gly Leu Trp Ala Pro Pro Ser Cys
                 85                  90                  95

Thr Gly Pro Arg Gly His Phe
            100



<210> 80
<211> 477
<212> PRT
<213> Homo sapiens

<400> 80
Met Ala Ala Pro Thr Pro Ala Arg Pro Val Leu Thr His Leu Leu Val
 1               5                   10                  15

Ala Leu Phe Gly Met Gly Ser Trp Ala Ala Val Asn Gly Ile Trp Val
             20                  25                  30

Glu Leu Pro Val Val Val Lys Glu Leu Pro Glu Gly Trp Ser Leu Pro
         35                  40                  45

Ser Tyr Val Ser Val Leu Val Ala Leu Gly Asn Leu Gly Leu Leu Val
     50                  55                  60

Val Thr Leu Trp Arg Arg Leu Ala Pro Gly Lys Asp Glu Gln Val Pro
 65                  70                  75                  80

Ile Arg Val Val Gln Val Leu Gly Met Val Gly Thr Ala Leu Leu Ala
                 85                  90                  95

Ser Leu Trp His His Val Ala Pro Val Ala Gly Gln Leu His Ser Val
            100                 105                 110

Ala Phe Leu Ala Leu Ala Phe Val Leu Ala Leu Ala Cys Cys Ala Ser
        115                 120                 125

Asn Val Thr Phe Leu Pro Phe Leu Ser His Leu Pro Pro Arg Phe Leu
    130                 135                 140

Arg Ser Phe Phe Leu Gly Gln Gly Leu Ser Ala Leu Leu Pro Cys Val
145                 150                 155                 160

Leu Ala Leu Val Gln Gly Val Gly Arg Leu Glu Cys Pro Pro Ala Pro
                165                 170                 175

Ile Asn Gly Thr Pro Gly Pro Pro Leu Asp Phe Leu Glu Arg Phe Pro
            180                 185                 190

Ala Ser Thr Phe Phe Trp Ala Leu Thr Ala Leu Leu Val Ala Ser Ala
        195                 200                 205
```

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<220>
<221> SITE
<222> (33)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 78
Gln Trp Xaa Gly Gln Gly Ser Leu Cys Pro Trp Tyr Cys Cys Pro Gly
 1               5                   10                  15

Xaa Val Ser Ala Val Thr Leu Leu Pro Ser Trp Trp Leu Leu Arg Pro
             20                  25                  30

Xaa Phe Val Leu Leu Phe Leu Pro Lys Cys Leu Ser Ser Pro Ser Cys
         35                  40                  45

Ile Lys Tyr Pro Cys Cys Ala Thr Asn Tyr Leu Glu Leu Gly Asp Phe
     50                  55                  60

Thr Thr Thr Ala Cys Gln Arg Pro Ala Val Asp Glu Gly Leu Gly Gly
 65                  70                  75                  80

Met Ala Gly Pro Ala Gln Gly Ser Leu Ala Glu Val Gly Ala Glu Ala
                 85                  90                  95

Ala Arg His Trp Arg Leu Gly Leu Ser His Thr Pro Trp Leu Leu Gly
            100                 105                 110

Gly Cys Ile Leu Leu Ser Ser Leu Ser Ser Arg Gly Cys Thr Leu Gly
        115                 120                 125

Cys Arg Pro Pro Val Ser Leu Thr Gly Tyr Ser Trp Gly Ser Leu Arg
    130                 135                 140

Ser Trp Arg Cys Pro Gln Pro Pro Ser Pro Arg Leu Pro Pro Pro His
145                 150                 155                 160

Thr Leu Arg Pro Gln Arg Phe Val Arg Val His Glu Ile Leu Glu Leu
                165                 170                 175

Pro Gly Cys Ser Phe Cys Asn Ile Phe Asn Ile Cys Asn Pro Val Lys
            180                 185                 190

Tyr Gln



<210> 79
<211> 103
<212> PRT
<213> Homo sapiens

<400> 79
Met Asp Pro Ala Ala Val Ala Leu Leu Ala Leu Ser Leu Pro Cys Ala
 1               5                   10                  15

Leu Val Gly Val Gln Trp Glu Gln Ala Pro Trp Gly Pro Trp Arg Leu
             20                  25                  30

Ser Leu Leu Ser Pro His Pro Arg Asp Pro Ile Val Ala Pro Val Ser
```

```
65                  70                  75                  80

Asp Gly Val Gly Ala Ala Pro Gln Glu Val
                85                  90



<210> 77
<211> 70
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (29)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (34)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (37)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 77
Met Asp Pro Ala Ala Val Ala Leu Leu Ala Leu Ser Leu Pro Cys Ala
 1               5                  10                  15

Leu Val Gly Val Gln Trp Glu Gln Ala Pro Trp Gly Xaa Trp Arg Leu
            20                  25                  30

Ser Xaa Ser Ala Xaa Thr Pro Glu Thr Pro Ser Trp Arg Leu Cys Pro
        35                  40                  45

Leu Arg Asp Tyr Pro Lys Pro Gly Gln Arg Ser Gly Gly Asp Arg Gly
    50                  55                  60

Ser His Ile Arg Ser Leu
 65                  70



<210> 78
<211> 194
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (3)
<223> Xaa equals any of the naturally occurring L-amino acids

<220>
<221> SITE
<222> (17)
<223> Xaa equals any of the naturally occurring L-amino acids
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     50                  55


<210> 75
<211> 119
<212> PRT
<213> Homo sapiens

<400> 75
Asp Leu Asp Leu Met Glu Ser Gly Val Ser Thr His Asn Met Ser Ser
  1               5                  10                  15

Trp Thr Leu Gly Ile His Cys Glu Gln Ala Gly Trp Gly Leu Pro Ala
             20                  25                  30

Gln Ile Gly Ala Ile Leu Phe Cys Ile Leu Phe Gln Gly Val Leu Asn
         35                  40                  45

Thr Leu Lys Gln Val Glu Ala Pro Ala Pro Asp Trp Glu Leu Leu Glu
     50                  55                  60

Arg Pro Pro Cys Val Cys Val Val Leu Ser Trp Ser His Ile Glu Ser
 65                  70                  75                  80

Gly Trp Gly Ser Ser Thr Arg Gln Ser Pro Ser Asn Ser Gln Val Leu
                 85                  90                  95

Ala Pro Ser Gly Lys Ala Asp Thr Leu Ser Trp Arg Arg Pro Arg Lys
            100                 105                 110

Ser Gly Leu Arg Val Ala Ala
        115


<210> 76
<211> 90
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (5)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 76
Val Thr Cys Gln Xaa Val Leu Pro Ser Pro Val Tyr Leu Cys Asn Tyr
  1               5                  10                  15

Phe Cys Lys His Cys Ile Leu Cys Gly Arg His Leu Leu Ala Pro Ser
             20                  25                  30

Leu Gly Phe Ser Leu Ser Ser Arg Pro Ala Cys Thr Ser Leu Gly Cys
         35                  40                  45

Ser Gly Val Ser Ala Pro His Ser Arg Pro Gly Cys Gln Ala Gln Pro
     50                  55                  60

Ala Gly Ala Arg Asp Pro Ala Ala Cys Pro Lys His Leu Phe Leu Gly
```

```
<221>turn
<223>Linker peptide that may be used to join VH
and VL domains in an scFv.

<400> 72
Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
 1               5                  10                  15


<210> 73
<211> 101
<212> PRT
<213> Homo sapiens


<400> 73
Pro Ala Leu Phe Ile Cys Val Ile Ile Phe Val Asn Ile Val Phe Ser
 1               5                  10                  15

Val Val Ala Thr Ser Ser Pro Pro Ala Ser Gly Ser Val Cys Leu Pro
             20                  25                  30

Gly Leu Leu Ala Pro His Trp Ala Ala Pro Gly Ser Leu Pro Leu Ile
         35                  40                  45

Pro Gly Leu Ala Val Arg Pro Ser Gln Gln Gly Pro Val Thr Gln Gln
     50                  55                  60

Pro Ala Gln Ser Ile Cys Phe Trp Gly Met Gly Trp Gly Leu Leu His
 65                  70                  75                  80

Arg Arg Phe Glu Pro Ser Thr Leu Gly Lys Gly Thr Leu His Asp Thr
                 85                  90                  95

Pro Leu Pro Pro Ser
             100



<210> 74
<211> 58
<212> PRT
<213> Homo sapiens

<220>
<221> SITE
<222> (24)
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 74
Arg Pro Ser Leu Pro Lys Cys Ala Ala Leu Val His Val Pro Asn Gly
 1               5                  10                  15

Pro Ser Pro His Ala Pro Pro Xaa Ser Gly Val Gly Ala Pro Ser Glu
             20                  25                  30

Val Ser Glu Ser Leu Lys Cys Ser Phe Val Arg Pro Leu Cys Ser Asp
         35                  40                  45

Ser Pro Gly Gln Ala Thr Ser Asn Pro Leu
```

tcctatgtgc tgactcagcc acc 23

<210> 68
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<221>primer_bind
<223>Degenerate Jlambda reverse primer useful for amplifying human VL domains

<400> 68
tcttctgagc tgactcagga ccc 23

<210> 69
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<221>primer_bind
<223>Degenerate Jlambda reverse primer useful for amplifying human VL domains

<400> 69
cacgttatac tgactcaacc gcc 23

<210> 70
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<221>primer_bind
<223>Degenerate Jlambda reverse primer useful for amplifying human VL domains

<400> 70
caggctgtgc tcactcagcc gtc 23

<210> 71
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<221>primer_bind
<223>Degenerate Jlambda reverse primer useful for amplifying human VL domains

<400> 71
aattttatgc tgactcagcc cca 23

<210> 72
<211> 15
<212> PRT
<213> Artificial Sequence

<220>

<213> Artificial Sequence

<220>
<221>primer_bind
<223>Degenerate Jkappa reverse primer useful for
amplifying human VL domains

<400> 63
acgtttgatc tccaccttgg tccc 24

<210> 64
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<221>primer_bind
<223>Degenerate Jkappa reverse primer useful for
amplifying human VL domains

<400> 64
acgtttaatc tccagtcgtg tccc 24

<210> 65
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<221>primer_bind
<223>Degenerate Jlambda reverse primer useful for
amplifying human VL domains

<400> 65
cagtctgtgt tgacgcagcc gcc 23

<210> 66
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<221>primer_bind
<223>Degenerate Jlambda reverse primer useful for
amplifying human VL domains

<400> 66
cagtctgccc tgactcagcc tgc 23

<210> 67
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<221>primer_bind
<223>Degenerate Jlambda reverse primer useful for
amplifying human VL domains

<400> 67

```
amplifying human VL domains

<400> 58
caggctgtgc tcactcagcc gtc                                      23

<210> 59
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<221>primer_bind
<223>Degenerate Vlambda forward primer useful for
amplifying human VL domains

<400> 59
aattttatgc tgactcagcc cca                                      23

<210> 60
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<221>primer_bind
<223>Degenerate Jkappa reverse primer useful for
amplifying human VL domains

<400> 60
acgtttgatt tccaccttgg tccc                                     24

<210> 61
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<221>primer_bind
<223>Degenerate Jkappa reverse primer useful for
amplifying human VL domains

<400> 61
acgtttgatc tccagcttgg tccc                                     24

<210> 62
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<221>primer_bind
<223>Degenerate Jkappa reverse primer useful for
amplifying human VL domains

<400> 62
acgtttgata tccactttgg tccc                                     24

<210> 63
<211> 24
<212> DNA
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<210> 54
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<221>primer_bind
<223>Degenerate Vlambda forward primer useful for
amplifying human VL domains

<400> 54
cagtctgccc tgactcagcc tgc                                          23

<210> 55
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<221>primer_bind
<223>Degenerate Vlambda forward primer useful for
amplifying human VL domains

<400> 55
tcctatgtgc tgactcagcc acc                                          23

<210> 56
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<221>primer_bind
<223>Degenerate Vlambda forward primer useful for
amplifying human VL domains

<400> 56
tcttctgagc tgactcagga ccc                                          23

<210> 57
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<221>primer_bind
<223>Degenerate Vlambda forward primer useful for
amplifying human VL domains

<400> 57
cacgttatac tgactcaacc gcc                                          23

<210> 58
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<221>primer_bind
<223>Degenerate Vlambda forward primer useful for
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<220>
<221>primer_bind
<223>Degenerate Vkappa forward primer useful for
amplifying human VL domains

<400> 49
gaaattgtgt tgacgcagtc tcc 23

<210> 50
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<221>primer_bind
<223>Degenerate Vkappa forward primer useful for
amplifying human VL domains

<400> 50
gacatcgtga tgacccagtc tcc 23

<210> 51
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<221>primer_bind
<223>Degenerate Vkappa forward primer useful for
amplifying human VL domains

<400> 51
gaaacgacac tcacgcagtc tcc 23

<210> 52
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<221>primer_bind
<223>Degenerate Vkappa forward primer useful for
amplifying human VL domains

<400> 52
gaaattgtgc tgactcagtc tcc 23

<210> 53
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<221>primer_bind
<223>Degenerate Vlambda forward primer useful for
amplifying human VL domains

<400> 53
cagtctgtgt tgacgcagcc gcc 23

<400> 44
tgaggagacg gtgaccaggg ttcc 24

<210> 45
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<221>primer_bind
<223>Degenerate JH reverse primer useful for amplifying human VH domains

<400> 45
tgaggagacg gtgaccgtgg tccc 24

<210> 46
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<221>primer_bind
<223>Degenerate Vkappa forward primer useful for amplifying human VL domains

<400> 46
gacatccaga tgacccagtc tcc 23

<210> 47
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<221>primer_bind
<223>Degenerate Vkappa forward primer useful for amplifying human VL domains

<400> 47
gatgttgtga tgactcagtc tcc 23

<210> 48
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<221>primer_bind
<223>Degenerate Vkappa forward primer useful for amplifying human VL domains

<400> 48
gatattgtga tgactcagtc tcc 23

<210> 49
<211> 23
<212> DNA
<213> Artificial Sequence

<213> Artificial Sequence

<220>
<221>primer_bind
<223>Degenerate VH forward primer useful for
amplifying human VH domains

<400> 40
gaggtgcagc tgttgcagtc tgc 23

<210> 41
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<221>primer_bind
<223>Degenerate VH forward primer useful for
amplifying human VH domains

<400> 41
caggtacagc tgcagcagtc agg 23

<210> 42
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<221>primer_bind
<223>Degenerate JH reverse primer useful for
amplifying human VH domains

<400> 42
tgaggagacg gtgaccaggg tgcc 24

<210> 43
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<221>primer_bind
<223>Degenerate JH reverse primer useful for
amplifying human VH domains

<400> 43
tgaagagacg gtgaccattg tccc 24

<210> 44
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<221>primer_bind
<223>Degenerate JH reverse primer useful for
amplifying human VH domains

<210> 36
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<221>primer_bind
<223>Degenerate VH forward primer useful for
amplifying human VH domains

<400> 36
caggtgcagc tggtgcagtc tgg 23

<210> 37
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<221>primer_bind
<223>Degenerate VH forward primer useful for
amplifying human VH domains

<400> 37
caggtcaact taagggagtc tgg 23

<210> 38
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<221>primer_bind
<223>Degenerate VH forward primer useful for
amplifying human VH domains

<400> 38
gaggtgcagc tggtggagtc tgg 23

<210> 39
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<221>primer_bind
<223>Degenerate VH forward primer useful for
amplifying human VH domains

<400> 39
caggtgcagc tgcaggagtc ggg 23

<210> 40
<211> 23
<212> DNA

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<220>
<221> Misc_Structure
<222> (51)
<223> n equals a, t, g, or c

<220>
<221> Misc_Structure
<222> (52)
<223> n equals a, t, g, or c

<220>
<221> Misc_Structure
<222> (53)
<223> n equals a, t, g, or c

<220>
<221> Misc_Structure
<222> (54)
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<220>
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<400> 33
agtcccatcg atgagcaacc tcactcttgt gtgcatcnnn nnnnnnnnnn nnnnn        55


<210> 34
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<221> signal
<223> Stanniocalcin signal peptide

<400> 34
Met Leu Gln Asn Ser Ala Val Leu Leu Leu Leu Val Ile Ser Ala Ser
 1               5                  10                  15

Ala


<210> 35
<211> 22
<212> PRT
<213> Artificial Sequence

<220>
<221> signal
<223> Synthetic signal peptide

<400> 35
Met Pro Thr Trp Ala Trp Trp Leu Phe Leu Val Leu Leu Leu Ala Leu
 1               5                  10                  15

Trp Ala Pro Ala Arg Gly
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<220>
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<223> n equals a, t, g, or c

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<220>
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<222> (46)
<223> n equals a, t, g, or c

<400> 32
ccgccgctcg aggggtgtgt ttcgtcgann nnnnnnnnnn nnnnnn 46

<210> 33
<211> 55
<212> DNA
<213> Artificial Sequence

<220>
<221> primer_bind
<223> reverse primer useful for inserting Therapeutic
protein into pC4:HSA vector

<220>
<221> Misc_Structure
<222> (38)
<223> n equals a, t, g, or c

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<210> 32
<211> 46
<212> DNA
<213> Artificial Sequence

<220>
<221> primer_bind
<223> forward primer useful for inserting Therapeutic
protein into pC4:HSA vector

<220>
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<220>
<221> misc_feature
<222> (25)..(97)
<223> cds natural signal sequence of human serum albumin

<220>
<221> misc_feature
<222> (75)..(81)
<223> XhoI restriction site

<220>
<221> misc_feature
<222> (98)..(114)
<223> cds first six amino acids of human serum albumin

<400> 30
tcagggatcc aagcttccgc caccatgaag tgggtaacct ttatttccct tctttttctc 60

tttagctcgg cttactcgag gggtgtgttt cgtcgagatg cacacaagag tgag       114


<210> 31
<211> 43
<212> DNA
<213> Artificial Sequence

<220>
<221> primer_bind
<223> reverse primer useful for generation of
PC4:HSA albumin fusion VECTOR

<220>
<221> misc_feature
<222> (6)..(11)
<223> Asp718 restriction site

<220>
<221> misc_feature
<222> (12)..(17)
<223> EcoRI restriction site

<220>
<221> misc_feature
<222> (15)..(17)
<223> reverse complement of stop codon

<220>
<221> misc_feature
<222> (18)..(25)
<223> AscI restriction site

<220>
<221> misc_feature
<222> (18)..(43)
<223> reverse complement of DNA sequence encoding last 9 amino acids

<400> 31
gcagcggtac cgaattcggc gcgccttata agcctaaggc agc                   43
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<220>
<221> Misc_Structure
<222> (50)
<223> n equals a, t, g, or c

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<221> Misc_Structure
<222> (51)
<223> n equals a, t, g, or c

<220>
<221> Misc_Structure
<222> (52)
<223> n equals a, t, g, or c

<400> 28
ctttaaatcg atgagcaacc tcactcttgt gtgcatcnnn nnnnnnnnnn nn          52


<210> 29
<211> 24
<212> PRT
<213> Artificial Sequence

<220>
<221> signal
<223> signal peptide of natural human serum albumin protein

<400> 29
Met Lys Trp Val Ser Phe Ile Ser Leu Leu Phe Leu Phe Ser Ser Ala
  1               5                  10                  15

Tyr Ser Arg Ser Leu Asp Lys Arg
            20


<210> 30
<211> 114
<212> DNA
<213> Artificial Sequence

<220>
<221> primer_bind
<223> forward primer useful for generation of PC4:HSA
albumin fusion VECTOR

<220>
<221> misc_feature
<222> (5)..(10)
<223> BamHI retsriction site

<220>
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<222> (11)..(16)
<223> Hind III retsriction site

<220>
<221> misc_feature
<222> (17)..(27)
<223> Kozak sequence
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<220>
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<223> n equals a, t, g, or c

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<221> Misc_Structure
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<400> 27
aggagcgtcg acaaaagann nnnnnnnnnn nnn 33

<210> 28
<211> 52
<212> DNA
<213> Artificial Sequence

<220>
<221> primer_bind
<223> reverse primer useful for generation of albumin
fusion protein in which the albumin moiety is c-terminal of
the Therapeutic Protein

<220>
<221> Misc_Structure
<222> (49)
<223> n equals a, t, g, or c

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<223> n equals a, t, g, or c

<400> 26
gcgcgcgttt aaacggccgg ccggcgcgcc ttattannnn nnnnnnnnnn n 51

<210> 27
<211> 33
<212> DNA
<213> Artificial Sequence

<220>
<223> forward primer useful for generation of albumin fusion protein in which the albumin moiety is c-terminal of the Therapeutic Protein

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<400> 25
aagctgcctt aggcttannn nnnnnnnnnn nn 32

<210> 26
<211> 51
<212> DNA
<213> Artificial Sequence

<220>
<221> primer_bind
<223> reverse primer useful for generation of albumin
fusion protein in which the albumin moiety is N-terminal
of the Therapeutic Protein

sites in pPPC0007

<400> 23
aagctgcctt aggcttataa taaggcgcgc cggccggccg tttaaactaa gcttaattct 60

<210> 24
<211> 60
<212> DNA
<213> Artificial Sequence

<220>
<221> Misc_Structure
<223> Synthetic oligonucleotide used to alter restriction
sites in pPPC0007

<400> 24
agaattaagc ttagtttaaa cggccggccg gcgcgcctta ttataagcct aaggcagctt 60

<210> 25
<211> 32
<212> DNA
<213> Artificial Sequence

<220>
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<223> forward primer useful for generation of albumin
fusion protein in which the albumin moiety is N-terminal
of the Therapeutic Protein

<220>
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<220>
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<223> primer used to generate XhoI and ClaI
site in pPPC0006

<400> 19
gcctcgagaa aagagatgca cacaagagtg aggttgctca tcgatttaaa gatttgg    57


<210> 20
<211> 58
<212> DNA
<213> Artificial Sequence

<220>
<221> primer_bind
<223> primer used in generation XhoI and ClaI
site in pPPC0006

<400> 20
aatcgatgag caacctcact cttgtgtgca tctcttttct cgaggctcct ggaataag   58


<210> 21
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<221> primer_bind
<223> primer used in generation XhoI and ClaI
site in pPPC0006

<400> 21
tacaaactta agagtccaat tagc                                         24


<210> 22
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<221> primer_bind
<223> primer used in generation XhoI and ClaI
site in pPPC0006

<400> 22
cacttctcta gagtggtttc atatgtctt                                    29


<210> 23
<211> 60
<212> DNA
<213> Artificial Sequence

<220>
<221> Misc_Structure
<223> Synthetic oligonucleotide used to alter restriction
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Leu Ala Ala Asp Phe Val Glu Ser Lys Asp Val Cys Lys Asn Tyr Ala
305                 310                 315                 320

Glu Ala Lys Asp Val Phe Leu Gly Met Phe Leu Tyr Glu Tyr Ala Arg
                325                 330                 335

Arg His Pro Asp Tyr Ser Val Val Leu Leu Leu Arg Leu Ala Lys Thr
            340                 345                 350

Tyr Glu Thr Thr Leu Glu Lys Cys Cys Ala Ala Ala Asp Pro His Glu
        355                 360                 365

Cys Tyr Ala Lys Val Phe Asp Glu Phe Lys Pro Leu Val Glu Glu Pro
    370                 375                 380

Gln Asn Leu Ile Lys Gln Asn Cys Glu Leu Phe Glu Gln Leu Gly Glu
385                 390                 395                 400

Tyr Lys Phe Gln Asn Ala Leu Leu Val Arg Tyr Thr Lys Lys Val Pro
                405                 410                 415

Gln Val Ser Thr Pro Thr Leu Val Glu Val Ser Arg Asn Leu Gly Lys
            420                 425                 430

Val Gly Ser Lys Cys Cys Lys His Pro Glu Ala Lys Arg Met Pro Cys
        435                 440                 445

Ala Glu Asp Tyr Leu Ser Val Val Leu Asn Gln Leu Cys Val Leu His
    450                 455                 460

Glu Lys Thr Pro Val Ser Asp Arg Val Thr Lys Cys Cys Thr Glu Ser
465                 470                 475                 480

Leu Val Asn Arg Arg Pro Cys Phe Ser Ala Leu Glu Val Asp Glu Thr
                485                 490                 495

Tyr Val Pro Lys Glu Phe Asn Ala Glu Thr Phe Thr Phe His Ala Asp
            500                 505                 510

Ile Cys Thr Leu Ser Glu Lys Glu Arg Gln Ile Lys Lys Gln Thr Ala
        515                 520                 525

Leu Val Glu Leu Val Lys His Lys Pro Lys Ala Thr Lys Glu Gln Leu
    530                 535                 540

Lys Ala Val Met Asp Asp Phe Ala Ala Phe Val Glu Lys Cys Cys Lys
545                 550                 555                 560

Ala Asp Asp Lys Glu Thr Cys Phe Ala Glu Glu Gly Lys Lys Leu Val
                565                 570                 575

Ala Ala Ser Gln Ala Ala Leu Gly Leu
            530                 585


<210> 19
<211> 57
<212> DNA
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<212> PRT
<213> Homo Sapiens

<400> 18
Asp Ala His Lys Ser Glu Val Ala His Arg Phe Lys Asp Leu Gly Glu
 1               5                  10                  15

Glu Asn Phe Lys Ala Leu Val Leu Ile Ala Phe Ala Gln Tyr Leu Gln
            20                  25                  30

Gln Cys Pro Phe Glu Asp His Val Lys Leu Val Asn Glu Val Thr Glu
        35                  40                  45

Phe Ala Lys Thr Cys Val Ala Asp Glu Ser Ala Glu Asn Cys Asp Lys
    50                  55                  60

Ser Leu His Thr Leu Phe Gly Asp Lys Leu Cys Thr Val Ala Thr Leu
65                  70                  75                  80

Arg Glu Thr Tyr Gly Glu Met Ala Asp Cys Cys Ala Lys Gln Glu Pro
                85                  90                  95

Glu Arg Asn Glu Cys Phe Leu Gln His Lys Asp Asp Asn Pro Asn Leu
            100                 105                 110

Pro Arg Leu Val Arg Pro Glu Val Asp Val Met Cys Thr Ala Phe His
        115                 120                 125

Asp Asn Glu Glu Thr Phe Leu Lys Lys Tyr Leu Tyr Glu Ile Ala Arg
    130                 135                 140

Arg His Pro Tyr Phe Tyr Ala Pro Glu Leu Leu Phe Phe Ala Lys Arg
145                 150                 155                 160

Tyr Lys Ala Ala Phe Thr Glu Cys Cys Gln Ala Ala Asp Lys Ala Ala
                165                 170                 175

Cys Leu Leu Pro Lys Leu Asp Glu Leu Arg Asp Glu Gly Lys Ala Ser
            180                 185                 190

Ser Ala Lys Gln Arg Leu Lys Cys Ala Ser Leu Gln Lys Phe Gly Glu
        195                 200                 205

Arg Ala Phe Lys Ala Trp Ala Val Ala Arg Leu Ser Gln Arg Phe Pro
    210                 215                 220

Lys Ala Glu Phe Ala Glu Val Ser Lys Leu Val Thr Asp Leu Thr Lys
225                 230                 235                 240

Val His Thr Glu Cys Cys His Gly Asp Leu Leu Glu Cys Ala Asp Asp
                245                 250                 255

Arg Ala Asp Leu Ala Lys Tyr Ile Cys Glu Asn Gln Asp Ser Ile Ser
            260                 265                 270

Ser Lys Leu Lys Glu Cys Cys Glu Lys Pro Leu Leu Glu Lys Ser His
        275                 280                 285

Cys Ile Ala Glu Val Glu Asn Asp Glu Met Pro Ala Asp Leu Pro Ser
    290                 295                 300
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tgc tat gcc aaa gtg ttc gat gaa ttt aaa cct ctt gtg gaa gag cct     1152
Cys Tyr Ala Lys Val Phe Asp Glu Phe Lys Pro Leu Val Glu Glu Pro
    370                 375                 380

cag aat tta atc aaa caa aac tgt gag ctt ttt gag cag ctt gga gag     1200
Gln Asn Leu Ile Lys Gln Asn Cys Glu Leu Phe Glu Gln Leu Gly Glu
385                 390                 395                 400

tac aaa ttc cag aat gcg cta tta gtt cgt tac acc aag aaa gta ccc     1248
Tyr Lys Phe Gln Asn Ala Leu Leu Val Arg Tyr Thr Lys Lys Val Pro
                405                 410                 415

caa gtg tca act cca act ctt gta gag gtc tca aga aac cta gga aaa     1296
Gln Val Ser Thr Pro Thr Leu Val Glu Val Ser Arg Asn Leu Gly Lys
            420                 425                 430

gtg ggc agc aaa tgt tgt aaa cat cct gaa gca aaa aga atg ccc tgt     1344
Val Gly Ser Lys Cys Cys Lys His Pro Glu Ala Lys Arg Met Pro Cys
        435                 440                 445

gca gaa gac tat cta tcc gtg gtc ctg aac cag tta tgt gtg ttg cat     1392
Ala Glu Asp Tyr Leu Ser Val Val Leu Asn Gln Leu Cys Val Leu His
    450                 455                 460

gag aaa acg cca gta agt gac aga gtc aca aaa tgc tgc aca gag tcc     1440
Glu Lys Thr Pro Val Ser Asp Arg Val Thr Lys Cys Cys Thr Glu Ser
465                 470                 475                 480

ttg gtg aac agg cga cca tgc ttt tca gct ctg gaa gtc gat gaa aca     1488
Leu Val Asn Arg Arg Pro Cys Phe Ser Ala Leu Glu Val Asp Glu Thr
                485                 490                 495

tac gtt ccc aaa gag ttt aat gct gaa aca ttc acc ttc cat gca gat     1536
Tyr Val Pro Lys Glu Phe Asn Ala Glu Thr Phe Thr Phe His Ala Asp
            500                 505                 510

ata tgc aca ctt tct gag aag gag aga caa atc aag aaa caa act gca     1584
Ile Cys Thr Leu Ser Glu Lys Glu Arg Gln Ile Lys Lys Gln Thr Ala
        515                 520                 525

ctt gtt gag ctt gtg aaa cac aag ccc aag gca aca aaa gag caa ctg     1632
Leu Val Glu Leu Val Lys His Lys Pro Lys Ala Thr Lys Glu Gln Leu
    530                 535                 540

aaa gct gtt atg gat gat ttc gca gct ttt gta gag aag tgc tgc aag     1680
Lys Ala Val Met Asp Asp Phe Ala Ala Phe Val Glu Lys Cys Cys Lys
545                 550                 555                 560

gct gac gat aag gag acc tgc ttt gcc gag gag ggt aaa aaa ctt gtt     1728
Ala Asp Asp Lys Glu Thr Cys Phe Ala Glu Glu Gly Lys Lys Leu Val
                565                 570                 575

gct gca agt caa gct gcc tta ggc tta taacatctac atttaaaagc atctcag 1782
Ala Ala Ser Gln Ala Ala Leu Gly Leu
            580                 585


<210> 18
<211> 585
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gac aat gaa gag aca ttt ttg aaa aaa tac tta tat gaa att gcc aga    432
Asp Asn Glu Glu Thr Phe Leu Lys Lys Tyr Leu Tyr Glu Ile Ala Arg
    130                 135                 140

aga cat cct tac ttt tat gcc ccg gaa ctc ctt ttc ttt gct aaa agg    480
Arg His Pro Tyr Phe Tyr Ala Pro Glu Leu Leu Phe Phe Ala Lys Arg
145                 150                 155                 160

tat aaa gct gct ttt aca gaa tgt tgc caa gct gct gat aaa gct gcc    528
Tyr Lys Ala Ala Phe Thr Glu Cys Cys Gln Ala Ala Asp Lys Ala Ala
                165                 170                 175

tgc ctg ttg cca aag ctc gat gaa ctt cgg gat gaa ggg aag gct tcg    576
Cys Leu Leu Pro Lys Leu Asp Glu Leu Arg Asp Glu Gly Lys Ala Ser
            180                 185                 190

tct gcc aaa cag aga ctc aaa tgt gcc agt ctc caa aaa ttt gga gaa    624
Ser Ala Lys Gln Arg Leu Lys Cys Ala Ser Leu Gln Lys Phe Gly Glu
        195                 200                 205

aga gct ttc aaa gca tgg gca gtg gct cgc ctg agc cag aga ttt ccc    672
Arg Ala Phe Lys Ala Trp Ala Val Ala Arg Leu Ser Gln Arg Phe Pro
    210                 215                 220

aaa gct gag ttt gca gaa gtt tcc aag tta gtg aca gat ctt acc aaa    720
Lys Ala Glu Phe Ala Glu Val Ser Lys Leu Val Thr Asp Leu Thr Lys
225                 230                 235                 240

gtc cac acg gaa tgc tgc cat gga gat ctg ctt gaa tgt gct gat gac    768
Val His Thr Glu Cys Cys His Gly Asp Leu Leu Glu Cys Ala Asp Asp
                245                 250                 255

agg gcg gac ctt gcc aag tat atc tgt gaa aat cag gat tcg atc tcc    816
Arg Ala Asp Leu Ala Lys Tyr Ile Cys Glu Asn Gln Asp Ser Ile Ser
            260                 265                 270

agt aaa ctg aag gaa tgc tgt gaa aaa cct ctg ttg gaa aaa tcc cac    864
Ser Lys Leu Lys Glu Cys Cys Glu Lys Pro Leu Leu Glu Lys Ser His
        275                 280                 285

tgc att gcc gaa gtg gaa aat gat gag atg cct gct gac ttg cct tca    912
Cys Ile Ala Glu Val Glu Asn Asp Glu Met Pro Ala Asp Leu Pro Ser
    290                 295                 300

tta gct gct gat ttt gtt gaa agt aag gat gtt tgc aaa aac tat gct    960
Leu Ala Ala Asp Phe Val Glu Ser Lys Asp Val Cys Lys Asn Tyr Ala
305                 310                 315                 320

gag gca aag gat gtc ttc ctg ggc atg ttt ttg tat gaa tat gca aga    1008
Glu Ala Lys Asp Val Phe Leu Gly Met Phe Leu Tyr Glu Tyr Ala Arg
                325                 330                 335

agg cat cct gat tac tct gtc gtg ctg ctg ctg aga ctt gcc aag aca    1056
Arg His Pro Asp Tyr Ser Val Val Leu Leu Leu Arg Leu Ala Lys Thr
            340                 345                 350

tat gaa acc act cta gag aag tgc tgt gcc gct gca gat cct cat gaa    1104
Tyr Glu Thr Thr Leu Glu Lys Cys Cys Ala Ala Ala Asp Pro His Glu
        355                 360                 365
```

```
ac                                                                 62


<210> 16
<211> 63
<212> DNA
<213> Artificial Sequence

<220>
<221> misc_structure
<223> synthetic oligonucleotide used to join DNA
fragments with non-cohesive ends.

<400> 16
aattgttggg aaggatccac cgccaccaga tccgccgcca ccagatccac caccgcctaa 60
gcc                                                                63


<210> 17
<211> 1782
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (1)..(1755)


<400> 17
gat gca cac aag agt gag gtt gct cat cgg ttt aaa gat ttg gga gaa     48
Asp Ala His Lys Ser Glu Val Ala His Arg Phe Lys Asp Leu Gly Glu
1               5                   10                  15

gaa aat ttc aaa gcc ttg gtg ttg att gcc ttt gct cag tat ctt cag     96
Glu Asn Phe Lys Ala Leu Val Leu Ile Ala Phe Ala Gln Tyr Leu Gln
            20                  25                  30

cag tgt cca ttt gaa gat cat gta aaa tta gtg aat gaa gta act gaa    144
Gln Cys Pro Phe Glu Asp His Val Lys Leu Val Asn Glu Val Thr Glu
        35                  40                  45

ttt gca aaa aca tgt gtt gct gat gag tca gct gaa aat tgt gac aaa    192
Phe Ala Lys Thr Cys Val Ala Asp Glu Ser Ala Glu Asn Cys Asp Lys
    50                  55                  60

tca ctt cat acc ctt ttt gga gac aaa tta tgc aca gtt gca act ctt    240
Ser Leu His Thr Leu Phe Gly Asp Lys Leu Cys Thr Val Ala Thr Leu
65                  70                  75                  80

cgt gaa acc tat ggt gaa atg gct gac tgc tgt gca aaa caa gaa cct    288
Arg Glu Thr Tyr Gly Glu Met Ala Asp Cys Cys Ala Lys Gln Glu Pro
                85                  90                  95

gag aga aat gaa tgc ttc ttg caa cac aaa gat gac aac cca aac ctc    336
Glu Arg Asn Glu Cys Phe Leu Gln His Lys Asp Asp Asn Pro Asn Leu
            100                 105                 110

ccc cga ttg gtg aga cca gag gtt gat gtg atg tgc act gct ttt cat    384
Pro Arg Leu Val Arg Pro Glu Val Asp Val Met Cys Thr Ala Phe His
        115                 120                 125
```

fragments with non-cohesive ends.

<400> 11
tgtggaagag cctcagaatt tattcccaac 30

<210> 12
<211> 31
<212> DNA
<213> Artificial Sequence

<220>
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<400> 12
aattgttggg aataaattct gaggctcttc c 31

<210> 13
<211> 47
<212> DNA
<213> Artificial Sequence

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fragments with non-cohesive ends.

<400> 13
ttaggcttag gtggcggtgg atccggcggt ggtggatctt tcccaac 47

<210> 14
<211> 48
<212> DNA
<213> Artificial Sequence

<220>
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fragments with non-cohesive ends.

<400> 14
aattgttggg aaagatccac caccgccgga tccaccgcca cctaagcc 48

<210> 15
<211> 62
<212> DNA
<213> Artificial Sequence

<220>
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<223> synthetic oligonucleotide used to join DNA
fragments with non-cohesive ends.

<400> 15
ttaggcttag gcggtggtgg atctggtggc ggcggatctg gtggcggtgg atccttccca 60

<223> first 5 amino acids of mature human serum albumin

<400> 7
```
Met Leu Leu Gln Ala Phe Leu Phe Leu Leu Ala Gly Phe Ala Ala Lys
 1               5                  10                  15

Ile Ser Ala Asp Ala His Lys Ser
            20
```

<210> 8
<211> 21
<212> DNA
<213> Artificial Sequence

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<400> 8
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<210> 9
<211> 27
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<213> Artificial Sequence

<220>
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gatcctgtgg cttcgatgca cacaaga 27

<210> 10
<211> 24
<212> DNA
<213> Artificial Sequence

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<400> 10
ctcttgtgtg catcgaagcc acag 24

<210> 11
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<221> misc_structure
<223> synthetic oligonucleotide used to join DNA

<400> 3
gataaagatt cccaac 16

<210> 4
<211> 17
<212> DNA
<213> Artificial Sequence

<220>
<221> misc_structure
<223> synthetic oligonucleotide used to join DNA fragments with non-cohesive ends.

<400> 4
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<210> 5
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<212> DNA
<213> Artificial Sequence

<220>
<221> misc_structure
<223> synthetic oligonucleotide used to join DNA fragments with non-cohesive ends.

<400> 5
ttaggcttat tcccaac 17

<210> 6
<211> 18
<212> DNA
<213> Artificial Sequence

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<400> 6
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<210> 7
<211> 24
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<223> invertase leader sequence

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<120> Albumin Fusion Proteins

<130> PF546PCT

<140> Unassigned
<141> 2001-04-12

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<151> 2000-04-25

<160> 2267

<170> PatentIn Ver. 2.1

<210> 1
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<212> DNA
<213> Artificial Sequence

<220>
<221> primer_bind
<223> primer useful to clone human growth hormone cDNA

<400> 1
cccaagaatt cccttatcca ggc 23

<210> 2
<211> 33
<212> DNA
<213> Artificial Sequence

<220>
<221> primer_bind
<223> primer useful to clone human growth hormone cDNA

<400> 2
gggaagctta gaagccacag gatccctcca cag 33

<210> 3
<211> 16
<212> DNA
<213> Artificial Sequence

<220>
<221> misc_structure
<223> synthetic oligonucleotide used to join DNA fragments
with non-cohesive ends.

```
                  .           .           .               .           .           .
1441 TTG GTG AAC AGG CGA CCA TGC TTT TCA GCT CTG GAA GTC GAT GAA ACA TAC GTT CCC AAA 1500
 481 L   V   N   R   R   P   C   F   S   A   L   E   V   D   E   T   Y   V   P   K   500

                  .           .           .               .           .           .
1501 GAG TTT AAT GCT GAA ACA TTC ACC TTC CAT GCA GAT ATA TGC ACA CTT TCT GAG AAG GAG 1560
 501 E   F   N   A   E   T   F   T   F   H   A   D   I   C   T   L   S   E   K   E   520

                  .           .           .               .           .           .
1561 AGA CAA ATC AAG AAA CAA ACT GCA CTT GTT GAG CTT GTG AAA CAC AAG CCC AAG GCA ACA 1620
 521 R   Q   I   K   K   Q   T   A   L   V   E   L   V   K   H   K   P   K   A   T   540

                  .           .           .               .           .           .
1621 AAA GAG CAA CTG AAA GCT GTT ATG GAT GAT TTC GCA GCT TTT GTA GAG AAG TGC TGC AAG 1680
 541 K   E   Q   L   K   A   V   M   D   D   F   A   A   F   V   E   K   C   C   K   560

                  .           .           .               .           .           .
1681 GCT GAC GAT AAG GAG ACC TGC TTT GCC GAG GAG GGT AAA AAA CTT GTT GCT GCA AGT CAA 1740
 561 A   D   D   K   E   T   C   F   A   E   E   G   K   K   L   V   A   A   S   Q   580

                  .           .           .               .
1741 GCT GCC TTA GGC TTA TAA CAT CTA CAT TTA AAA GCA TCT CAG 1782
 581 A   A   L   G   L   *                                   585
```

Figure 15D

```
 961 GAG GCA AAG GAT GTC TTC CTG GGC ATG TTT TTG TAT GAA TAT GCA AGA AGG CAT CCT GAT 1020
 321 E   A   K   D   V   F   L   G   M   F   L   Y   E   Y   A   R   R   H   P   D   340

1021 TAC TCT GTC GTG CTG CTG CTG AGA CTT GCC AAG ACA TAT GAA ACC ACT CTA GAG AAG TGC 1080
 341 Y   S   V   V   L   L   L   R   L   A   K   T   Y   E   T   T   L   E   K   C   360

1081 TGT GCC GCT GCA GAT CCT CAT GAA TGC TAT GCC AAA GTG TTC GAT GAA TTT AAA CCT CTT 1140
 361 C   A   A   A   D   P   H   E   C   Y   A   K   V   F   D   E   F   K   P   L   380

1141 GTG GAA GAG CCT CAG AAT TTA ATC AAA CAA AAC TGT GAG CTT TTT GAG CAG CTT GGA GAG 1200
 381 V   E   E   P   Q   N   L   I   K   Q   N   C   E   L   F   E   Q   L   G   E   400

1201 TAC AAA TTC CAG AAT GCG CTA TTA GTT CGT TAC ACC AAG AAA GTA CCC CAA GTG TCA ACT 1260
 401 Y   K   F   Q   N   A   L   L   V   R   Y   T   K   K   V   P   Q   V   S   T   420

1261 CCA ACT CTT GTA GAG GTC TCA AGA AAC CTA GGA AAA GTG GGC AGC AAA TGT TGT AAA CAT 1320
 421 P   T   L   V   E   V   S   R   N   L   G   K   V   G   S   K   C   C   K   H   440

1321 CCT GAA GCA AAA AGA ATG CCC TGT GCA GAA GAC TAT CTA TCC GTG GTC CTG AAC CAG TTA 1380
 441 P   E   A   K   R   M   P   C   A   E   D   Y   L   S   V   V   L   N   Q   L   460

1381 TGT GTG TTG CAT GAG AAA ACG CCA GTA AGT GAC AGA GTC ACA AAA TGC TGC ACA GAG TCC 1440
 461 C   V   L   H   E   K   T   P   V   S   D   R   V   T   K   C   C   T   E   S   480
```

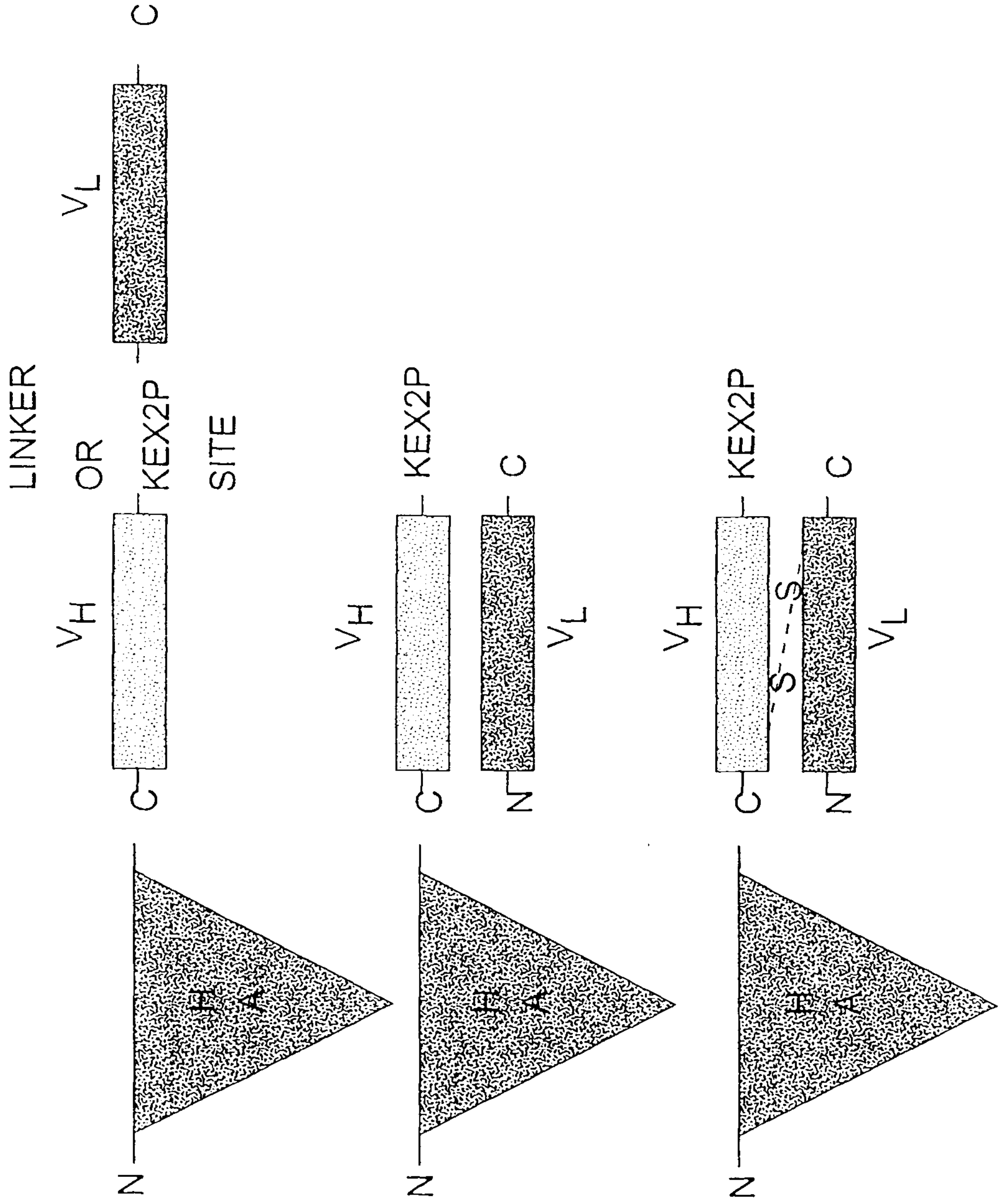
Figure 15C

```
481 TAT AAA GCT GCT TTT ACA GAA TGT TGC CAA GCT GCT GAT AAA GCT GCC TGC CTG TTG CCA 540
161 Y   K   A   A   F   T   E   C   C   Q   A   A   D   K   A   A   C   L   L   P   180

541 AAG CTC GAT GAA CTT CGG GAT GAA GGG AAG GCT TCG TCT GCC AAA CAG AGA CTC AAA TGT 600
181 K   L   D   E   L   R   D   E   G   K   A   S   S   A   K   Q   R   L   K   C   200

601 GCC AGT CTC CAA AAA TTT GGA GAA AGA GCT TTC AAA GCA TGG GCA GTG GCT CGC CTG AGC 660
201 A   S   L   Q   K   F   G   E   R   A   F   K   A   W   A   V   A   R   L   S   220

661 CAG AGA TTT CCC AAA GCT GAG TTT GCA GAA GTT TCC AAG TTA GTG ACA GAT CTT ACC AAA 720
221 Q   R   F   P   K   A   E   F   A   E   V   S   K   L   V   T   D   L   T   K   240

721 GTC CAC ACG GAA TGC TGC CAT GGA GAT CTG CTT GAA TGT GCT GAT GAC AGG GCG GAC CTT 780
241 V   H   T   E   C   C   H   G   D   L   L   E   C   A   D   D   R   A   D   L   260

781 GCC AAG TAT ATC TGT GAA AAT CAG GAT TCG ATC TCC AGT AAA CTG AAG GAA TGC TGT GAA 840
261 A   K   Y   I   C   E   N   Q   D   S   I   S   S   K   L   K   E   C   C   E   280

841 AAA CCT CTG TTG GAA AAA TCC CAC TGC ATT GCC GAA GTG GAA AAT GAT GAG ATG CCT GCT 900
281 K   P   L   L   E   K   S   H   C   I   A   E   V   E   N   D   E   M   P   A   300

901 GAC TTG CCT TCA TTA GCT GCT GAT TTT GTT GAA AGT AAG GAT GTT TGC AAA AAC TAT GCT 960
301 D   L   P   S   L   A   A   D   F   V   E   S   K   D   V   C   K   N   Y   A   320
```

Figure 15B

```
                    .           .           .               .           .           .
  1 GAT GCA CAC AAG AGT GAG GTT GCT CAT CGG TTT AAA GAT TTG GGA GAA GAA AAT TTC AAA 60
  1 D   A   H   K   S   E   V   A   H   R   F   K   D   L   G   E   E   N   F   K   20

                    .           .           .               .           .           .
 61 GCC TTG GTG TTG ATT GCC TTT GCT CAG TAT CTT CAG CAG TGT CCA TTT GAA GAT CAT GTA 120
 21 A   L   V   L   I   A   F   A   Q   Y   L   Q   Q   C   P   F   E   D   H   V   40

                    .           .           .               .           .           .
121 AAA TTA GTG AAT GAA GTA ACT GAA TTT GCA AAA ACA TGT GTT GCT GAT GAG TCA GCT GAA 180
 41 K   L   V   N   E   V   T   E   F   A   K   T   C   V   A   D   E   S   A   E   60

                    .           .           .               .           .           .
181 AAT TGT GAC AAA TCA CTT CAT ACC CTT TTT GGA GAC AAA TTA TGC ACA GTT GCA ACT CTT 240
 61 N   C   D   K   S   L   H   T   L   F   G   D   K   L   C   T   V   A   T   L   80

                    .           .           .               .           .           .
241 CGT GAA ACC TAT GGT GAA ATG GCT GAC TGC TGT GCA AAA CAA GAA CCT GAG AGA AAT GAA 300
 81 R   E   T   Y   G   E   M   A   D   C   C   A   K   Q   E   P   E   R   N   E   100

                    .           .           .               .           .           .
301 TGC TTC TTG CAA CAC AAA GAT GAC AAC CCA AAC CTC CCC CGA TTG GTG AGA CCA GAG GTT 360
101 C   F   L   Q   H   K   D   D   N   P   N   L   P   R   L   V   R   P   E   V   120

                    .           .           .               .           .           .
361 GAT GTG ATG TGC ACT GCT TTT CAT GAC AAT GAA GAG ACA TTT TTG AAA AAA TAC TTA TAT 420
121 D   V   M   C   T   A   F   H   D   N   E   E   T   F   L   K   K   Y   L   Y   140

                    .           .           .               .           .           .
421 GAA ATT GCC AGA AGA CAT CCT TAC TTT TAT GCC CCG GAA CTC CTT TTC TTT GCT AAA AGG 480
141 E   I   A   R   R   H   P   Y   F   Y   A   P   E   L   L   F   F   A   K   R   160
```

Figure 15A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HA
C
V_H
LINKER OR KEX2P SITE
V_L
C
N
HA
C
V_H
KEX2P
N
V_L
C
N
HA
C
V_H
KEX2P
S--S
N
V_L
C

FIG. 14

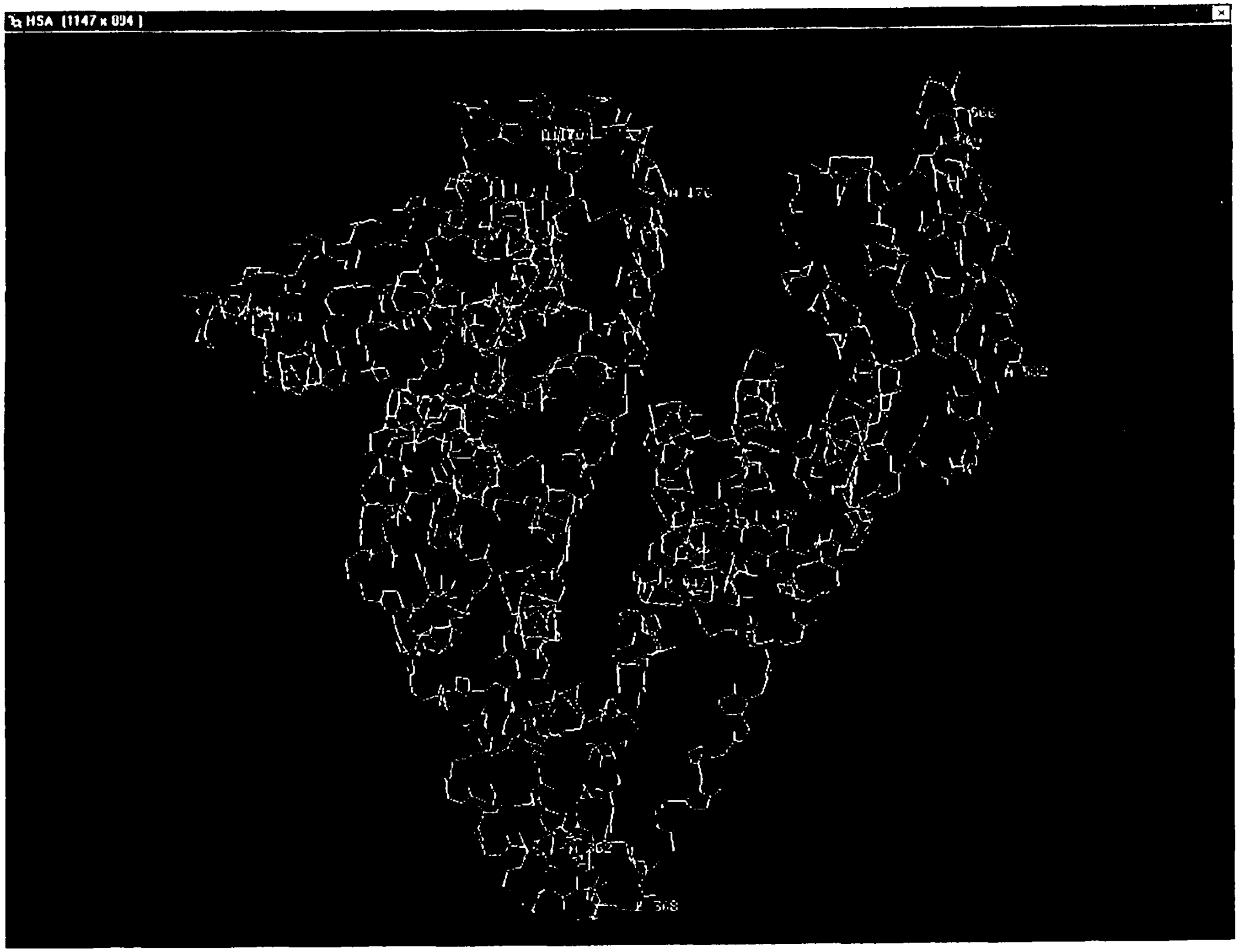
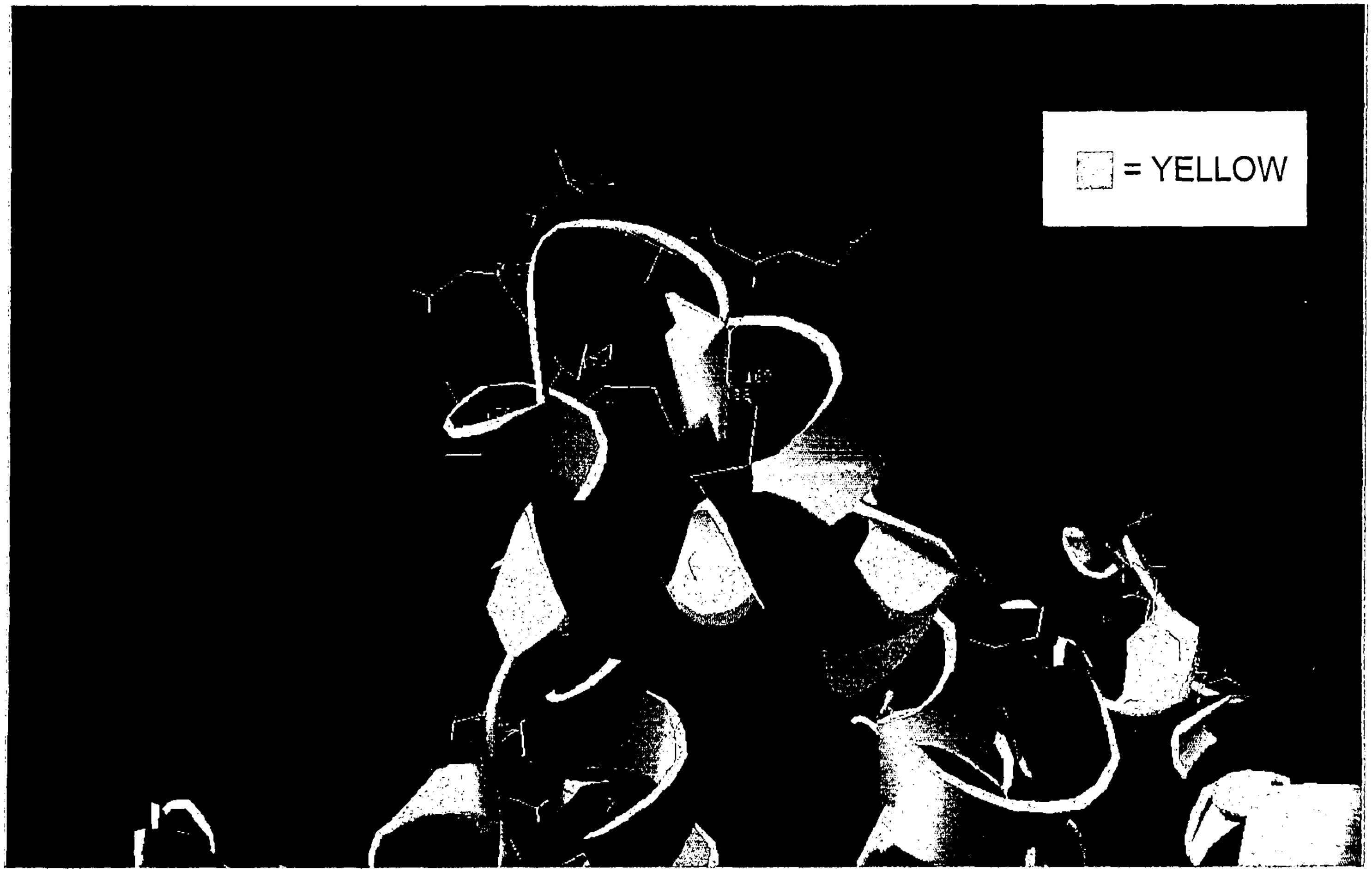

HSA (1147 x 894)

FIG. 13
TERTIARY STRUCTURE OF HA



DISULFIDE BONDS SHOWN IN YELLOW

FIG. 12:
LOOP IV GLU170-A176

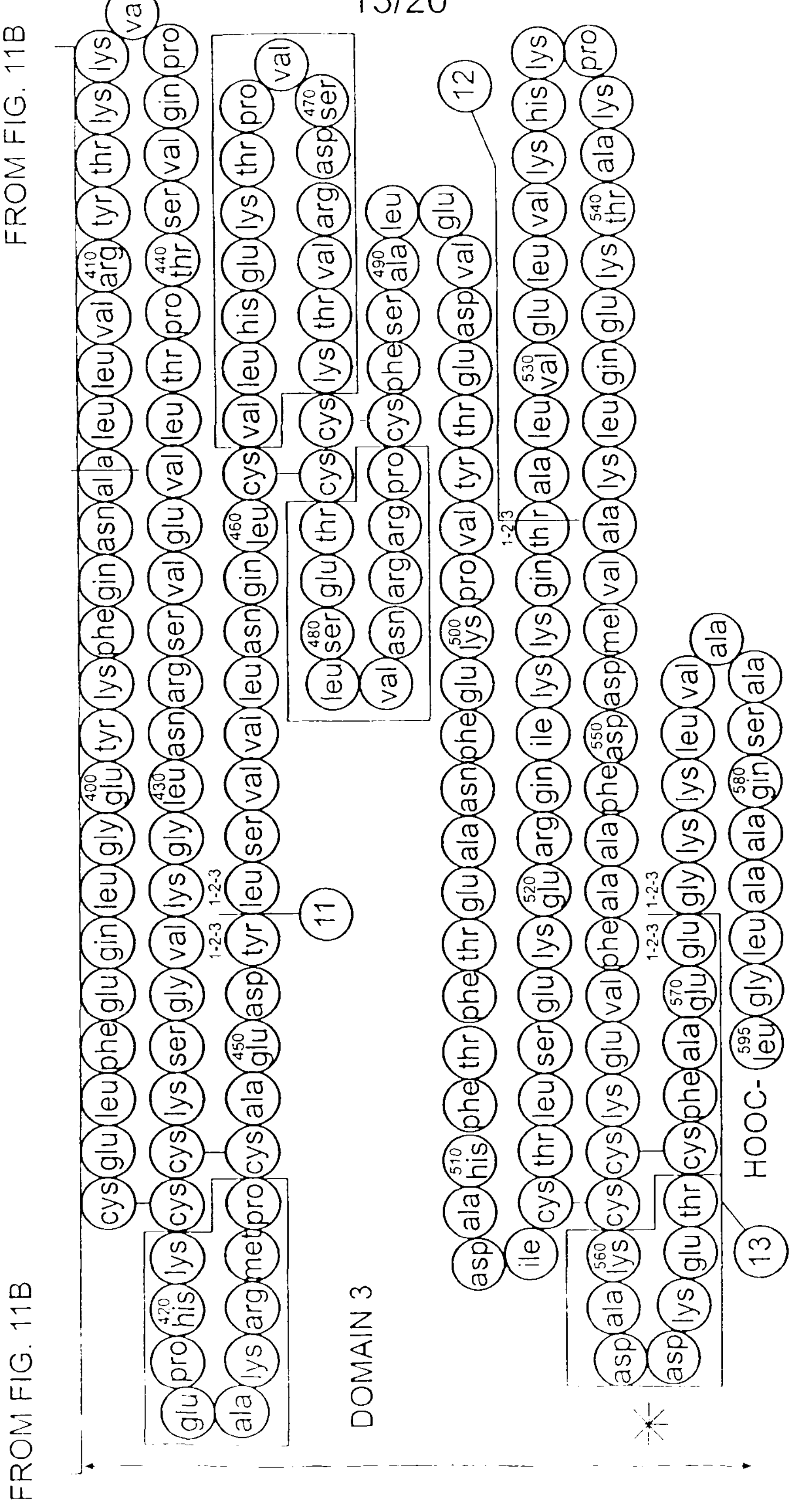

FROM FIG. 11B
FROM FIG. 11B
cys glu leu phe glu gln leu gly 400 glu tyr lys phe gln asn ala leu leu val 410 arg tyr thr lys lys val
glu pro 470 his lys cys cys lys ser gly val lys gly 430 leu asn arg ser val glu val leu thr pro 440 thr ser val gln pro
ala lys arg met pro cys ala 450 glu asp tyr leu ser val val leu asn gln 460 leu cys val leu his glu lys thr pro val
leu 480 ser glu thr cys cys lys thr val arg asp 470 ser
val asn arg arg pro cys phe ser 490 ala leu glu
asp ala 510 his phe thr phe thr glu ala asn phe glu 500 lys pro val tyr thr glu asp val glu
ile cys thr leu ser glu lys 520 glu arg gln ile lys lys gln thr ala leu 530 val glu leu val lys his lys
asp ala 560 lys cys cys lys glu val phe ala ala phe 550 asp asp met val ala lys leu gln glu lys 540 thr ala lys pro
asp lys glu thr cys phe ala 570 glu glu gly lys lys leu val ala
HOOC- 595 leu gly leu ala ala 580 gln ser ala
1-2-3
1-2-3
1-2-3
1-2-3
1-2-3
11
12
13
DOMAIN 3

FIG. 11C

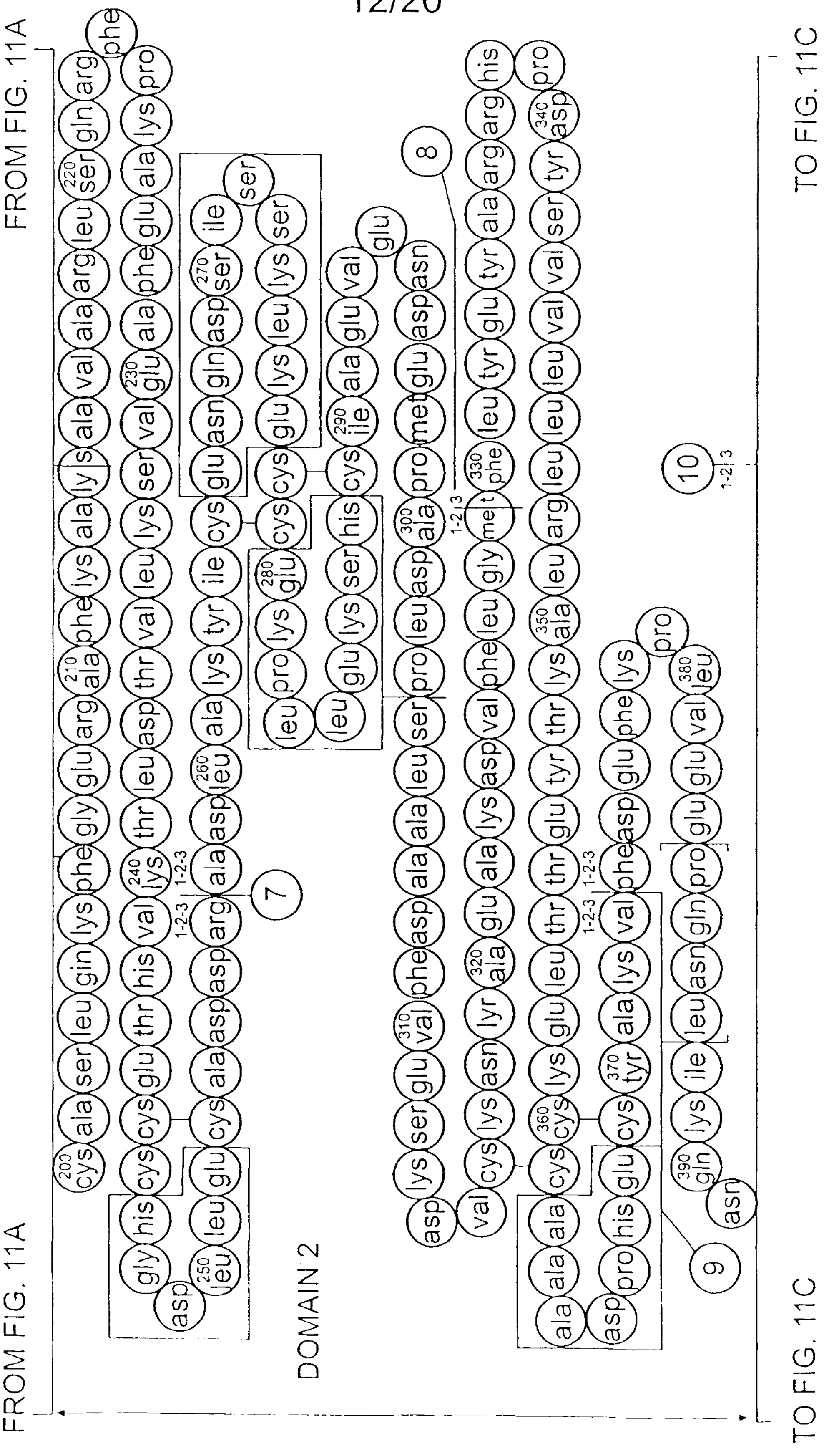

FROM FIG. 11A
FROM FIG. 11A
TO FIG. 11C
TO FIG. 11C
DOMAIN 2

FIG. 11B

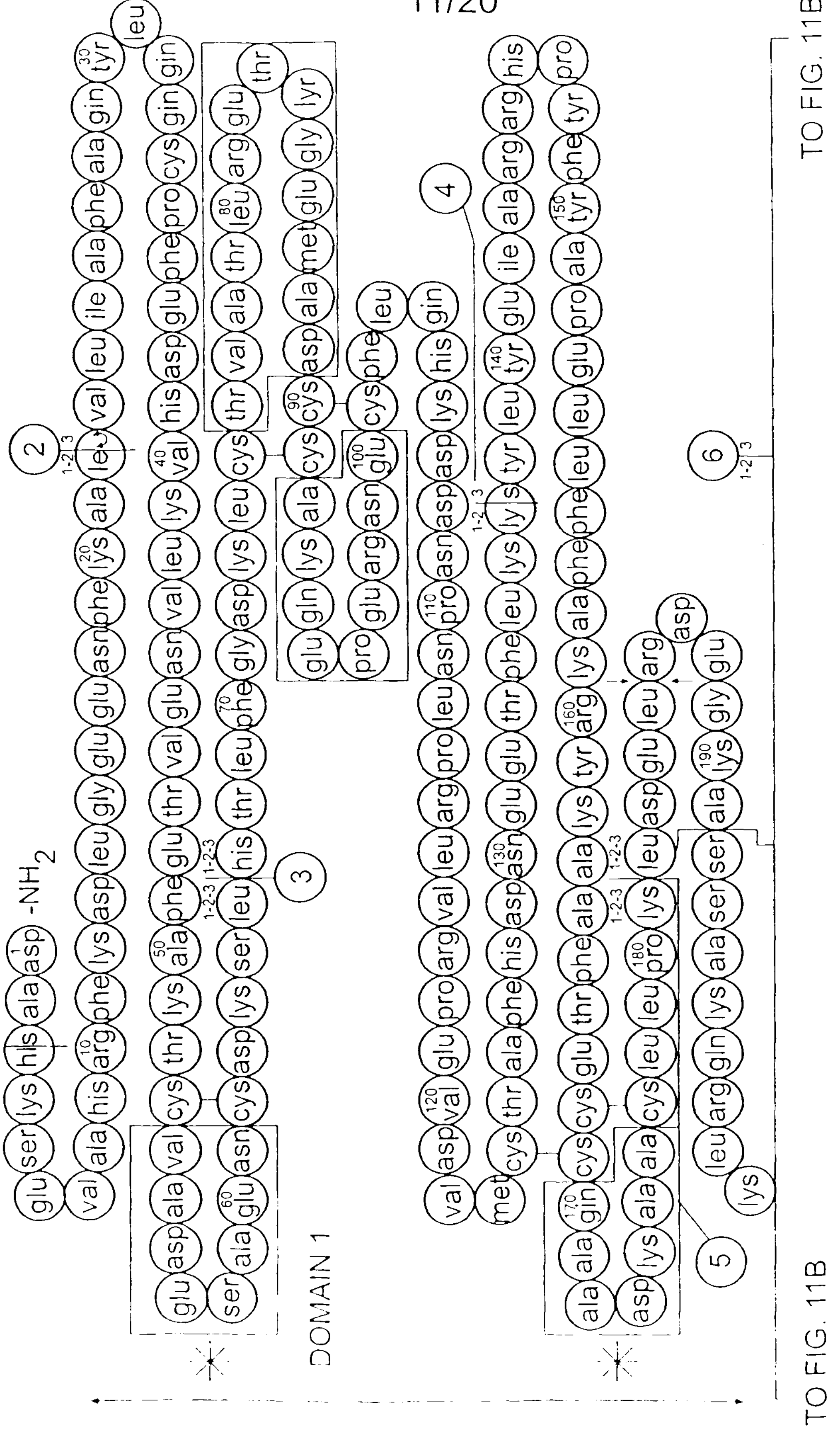

-NH2
1-2-3
②
③
④
⑤
⑥
DOMAIN 1
TO FIG. 11B
TO FIG. 11B

FIG. 11A

Examples of Modifications to Loop IV

a. Randomisation of Loop IV.

```
                                   IV
151   APELLFFAKR YKAAFTECCQ AADKAACLLP KLDELRDEGK ASSAKQRLKC
      HHHHHHHHHH HHHHHHHHH         HHHHH HHHHHHHHHH HHHHHHHHHH
```

```
                                   IV
151   APELLFFAKR YKAAFTECCX XXXXXXCLLP KLDELRDEGK ASSAKQRLKC
      HHHHHHHHHH HHHHHHHHH         HHHHH HHHHHHHHHH HHHHHHHHHH
```

X represents the mutation of the natural amino acid to any other amino acid. One, more or all of the amino acids can be changed in this manner. This figure indicates all the residues have been changed.

b. Insertion (or replacement) of Randomised sequence into Loop IV.

$(X)_n$

↓

```
                                     IV

151   APELLFFAKR YKAAFTECCQ AADKAACLLP KLDELRDEGK ASSAKQRLKC
      HHHHHHHHHH HHHHHHHHH         HHHHH HHHHHHHHHH HHHHHHHHHH
```

The insertion can be at any point on the loop and the length a length where n would typically be 6, 8, 12, 20 or 25.

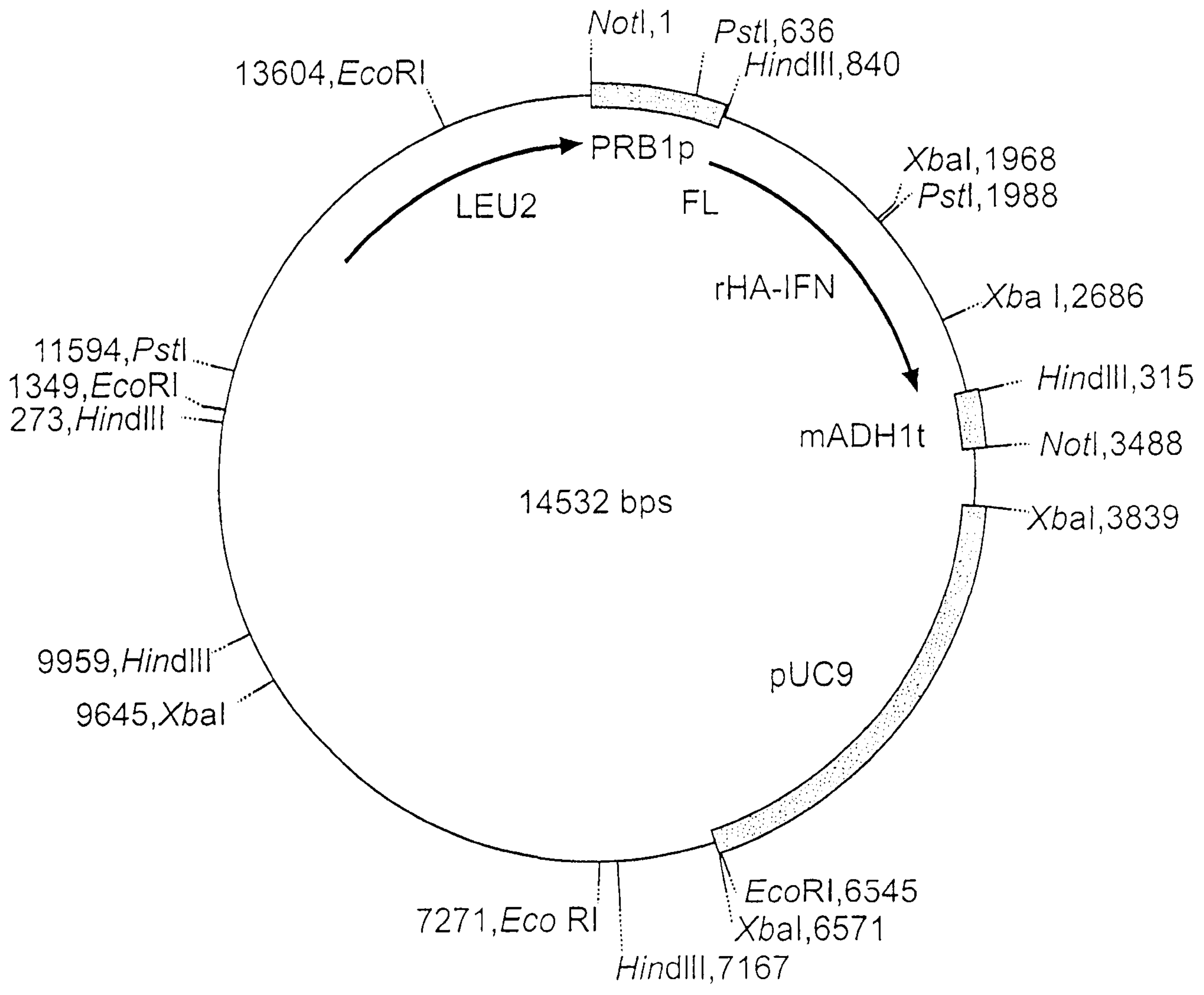
Figure 10

Localisation of 'Loops' based on the HA Crystal Structure which could be used for Mutation/Insertion

```
1       DAHKSEVAHR FKDLGEENFK ALVLIAFAQY LQQCPFEDHV KLVNEVTEFA
             HHHHH HHH    HHH HHHHHHHHHH      HHHHH HHHHHHHHHH

                I                        II              III
51      KTCVADESAE NCDKSLHTLF GDKLCTVATL RETYGEMADC CAKOEPERNE
        HHHHH           HHHHH HHHHH            HHHH H     HHHH

101     CFLQHKDDNP NLPRLVRPEV DVMCTAFHDN EETFLKKYLY EIARRHPYFY
        HHHH                H HHHHHHHH    HHHHHHHHH HHHHH

                                IV
151     APELLFFAKR YKAAFTECCO AADKAACLLP KLDELRDEGK ASSAKQRLKC
        HHHHHHHHHH HHHHHHHHH       HHHHH HHHEHHHHHH HHHHHHHHHH

                                                            V
201     ASLQKFGERA FKAWAVARLS QRFPKAEFAE VSKLVTDLTK VHTECCHGDL
        HHHHH   HH HHHHHHHHHH HH     HHH HHHHHHHHHH HHHHHH  HH

                            VI              VII
251     LECADDRADL AKYICENODS ISSKLKECCE KPLLEKSHCI AEVENDEMPA
        HHHHHHHHHH HHHHH          HHHHH     HHHHHHH H

301     DLPSLAADFV ESKDVCKNYA EAKDVFLGMF LYEYARRHPD YSVVLLLRLA
             HHHH      HHHHHH    HHHHHHH HHHHHH       HHHHHHHH

                      VIII
351     KTYETTLEKC CAAADPHECY AKVFDEFKPL VEEPQNLIKQ NCELFEQLGE
        HHHHHHHHHH       HH    H   HHHHH HHHHHHHHHH HHHHHHH

                                                      IX
401     YKFQNALLVR YTKKVPQVST PTLVEVSRNL GKVGSKCCKH PEAKRMPCAE
        HHHHHHHHHH HHHH     H HHHHHHHHHH    HHH       HHHHHHHH

                         X                   XI
451     DYLSVVLNQL CVLHEKTPVS DRVTKCCTES LVNRRPPCFSA LEVDETYVPK
        HHHHHHHHHH HHHHH      HHHHHHHHH     HHHHHHHH

501     EFNAETFTFH ADICTLSEKE RQIKKQTALV ELVKHKPKAT KEQLKAVMDD
                    HHH   HHH HHHHMMEHHH HHH          HHHHHHHH

                      XII
551     FAAFVEKCCK ADDKETCFAE EGKKLVAASQ AALGL
        HHHHHHHH         HHHH HHHHHHHHHH HH
```

Loop		Loop	
I	Val54-Asn61	VII	Glu280-His288
II	Thr76-Asp89	VIII	Ala362-Glu368
III	Ala92-Glu100	IX	Lys439-Pro447
IV	Gln170-Ala176	X	Val462-Lys475
V	His247-Glu252	XI	Thr478-Pro486
VI	Glu266-Glu277	XII	Lys560-Thr566

Figure 9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*Pst*I,636
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*Pst*I,1988
Xba I,2686
*Hin*dIII,315
*Not*I,3488
*Xba*I,3839
PRB1p
LEU2
FL
rHA-IFN
mADH1t
14532 bps
pUC9
11594,*Pst*I
1349,*Eco*RI
273,*Hin*dIII
9959,*Hin*dIII
9645,*Xba*I
7271,*Eco* RI
*Hin*dIII,7167
*Eco*RI,6545
*Xba*I,6571

FIG. 8

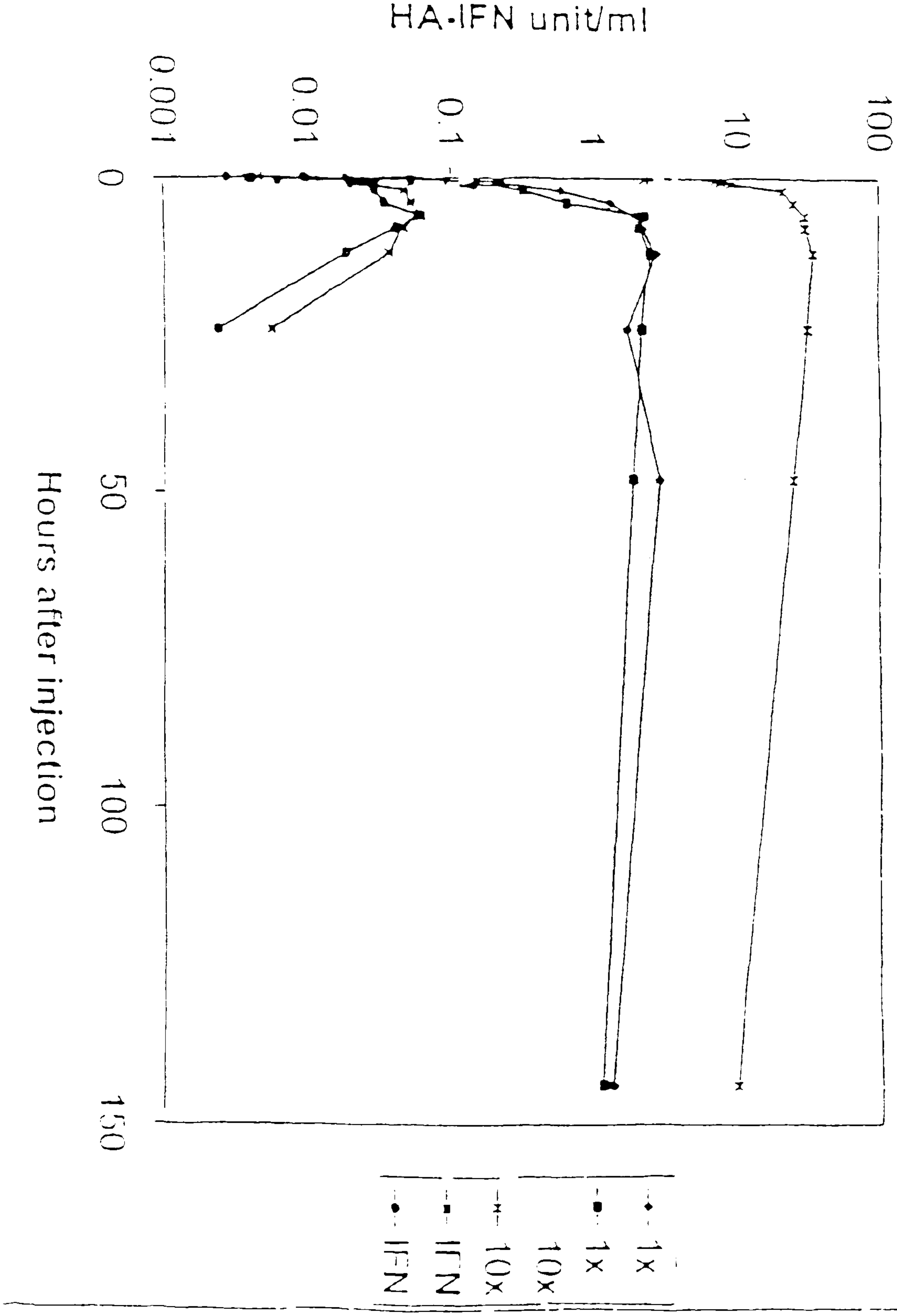

HA-IFN unit/ml
0.001
0.01
0.1
1
10
100
0
50
100
150
Hours after injection
◆ 1x
■ 1x
10x
✕ 10x
■ IFN
● IFN

Figure 7

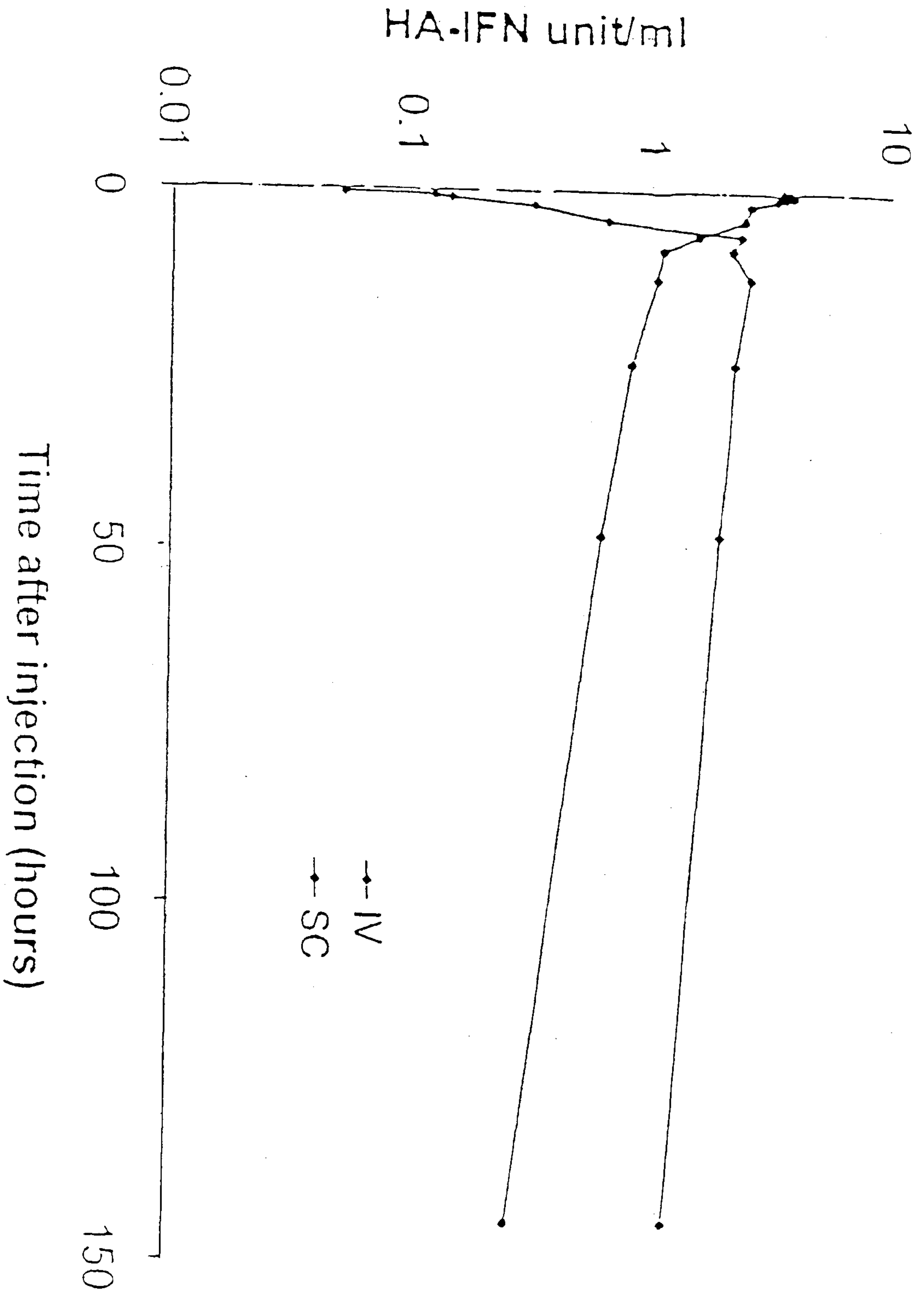

HA-IFN unit/ml
0.01
0.1
1
10
0
50
100
150
Time after injection (hours)
IV
SC

Figure 6

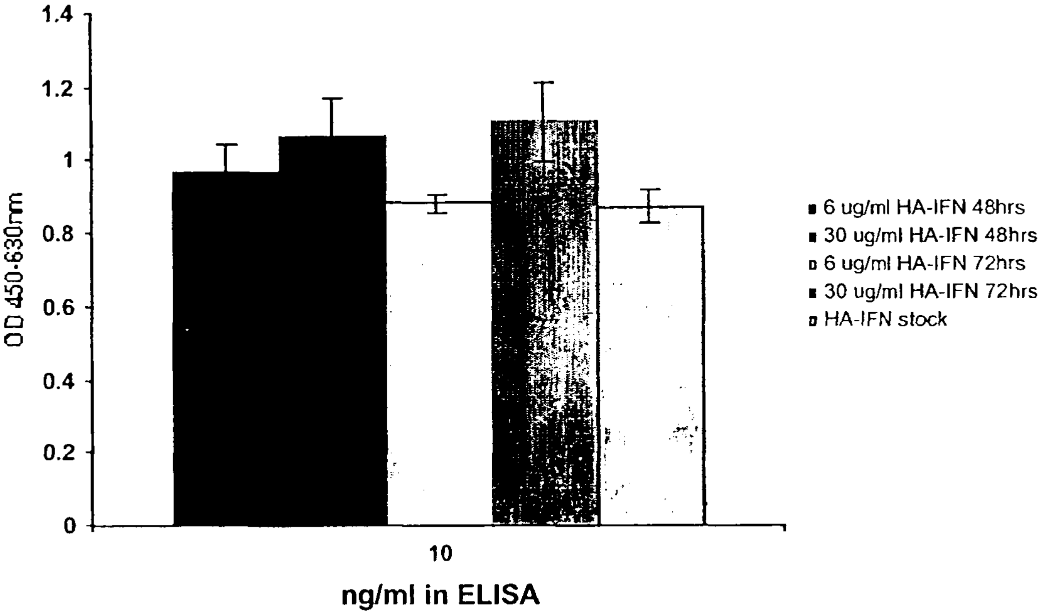
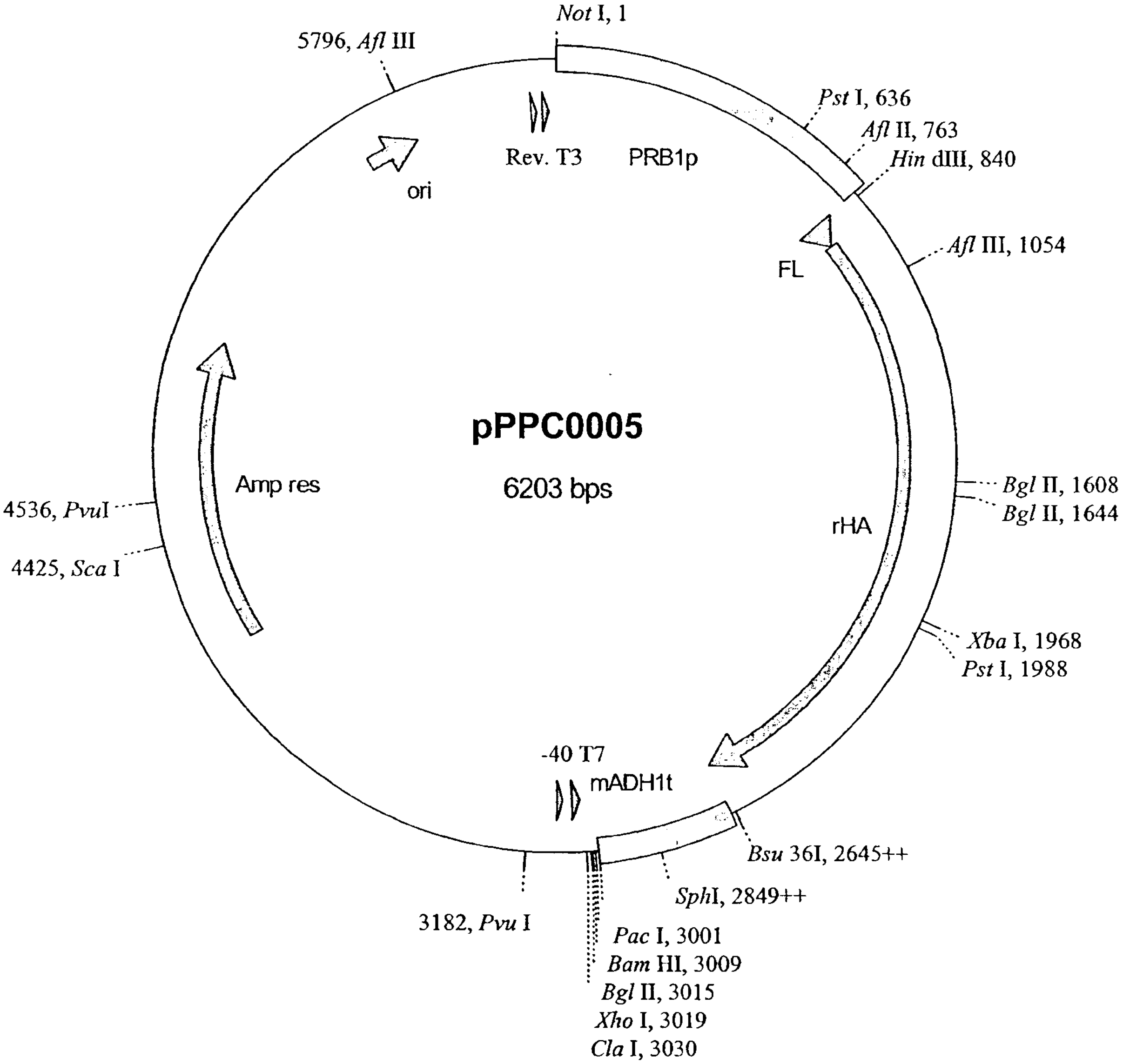

1.4
1.2
1
0.8
0.6
0.4
0.2
0
OD 450-630nm
10
ng/ml in ELISA
■ 6 ug/ml HA-IFN 48hrs
■ 30 ug/ml HA-IFN 48hrs
□ 6 ug/ml HA-IFN 72hrs
■ 30 ug/ml HA-IFN 72hrs
□ HA-IFN stock

Figure 5


Not I, 1
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Hin dIII, 840
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Rev. T3
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Amp res
rHA
4536, *Pvu*I
4425, *Sca* I
Bgl II, 1608
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Xba I, 1968
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Bgl II, 3015
Xho I, 3019
Cla I, 3030

Figure 4

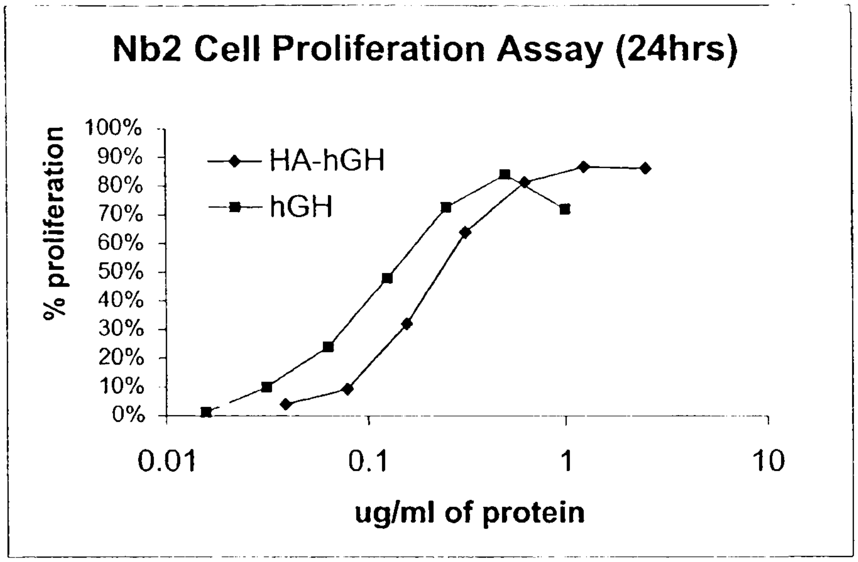

Figure 3A

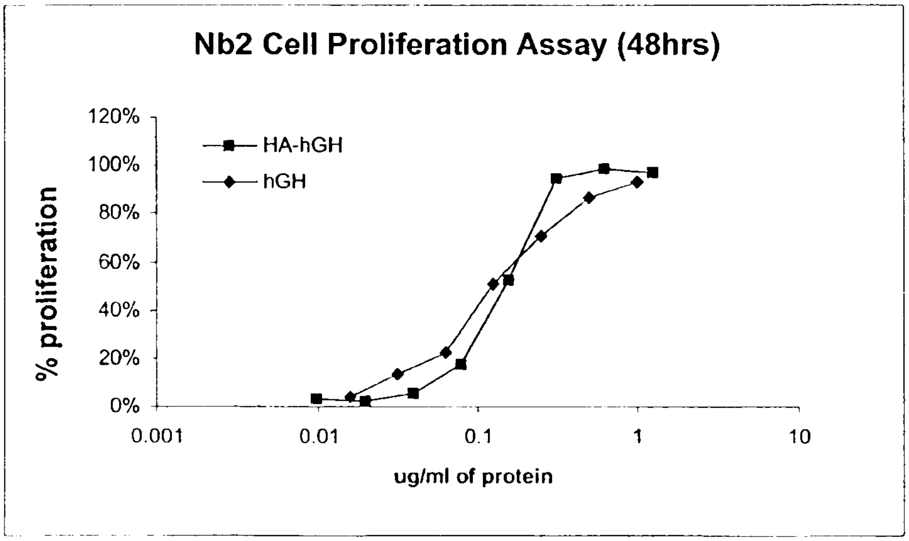

Figure 3B

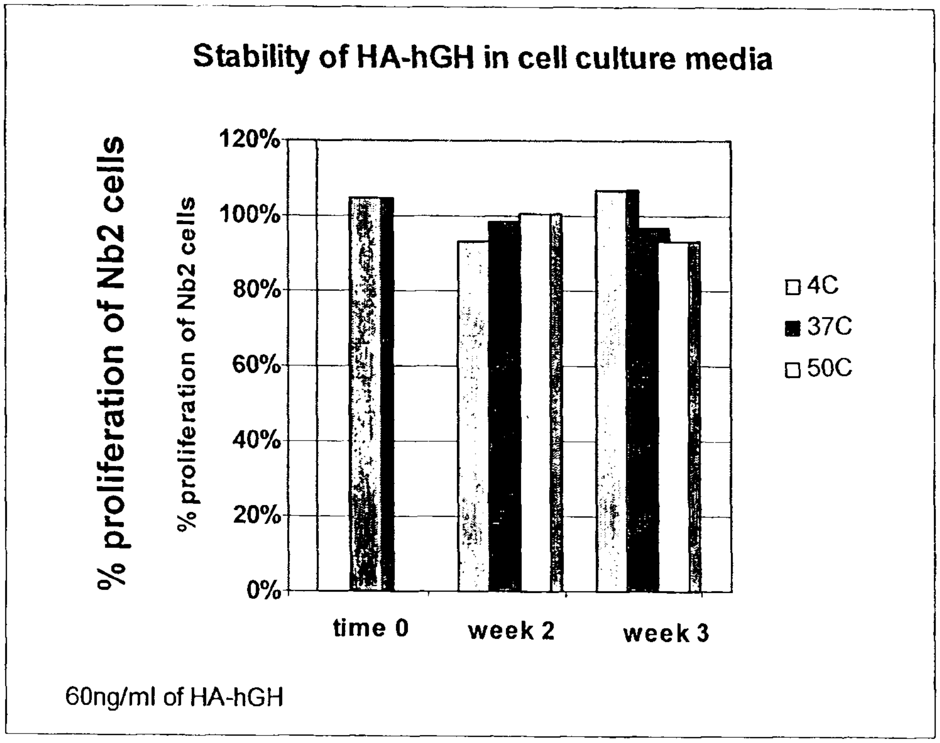
Stability of HA-hGH in cell culture media
% proliferation of Nb2 cells
% proliferation of Nb2 cells
120%
100%
80%
60%
40%
20%
0%
time 0
week 2
week 3
□ 4C
■ 37C
□ 50C
60ng/ml of HA-hGH

Figure 2

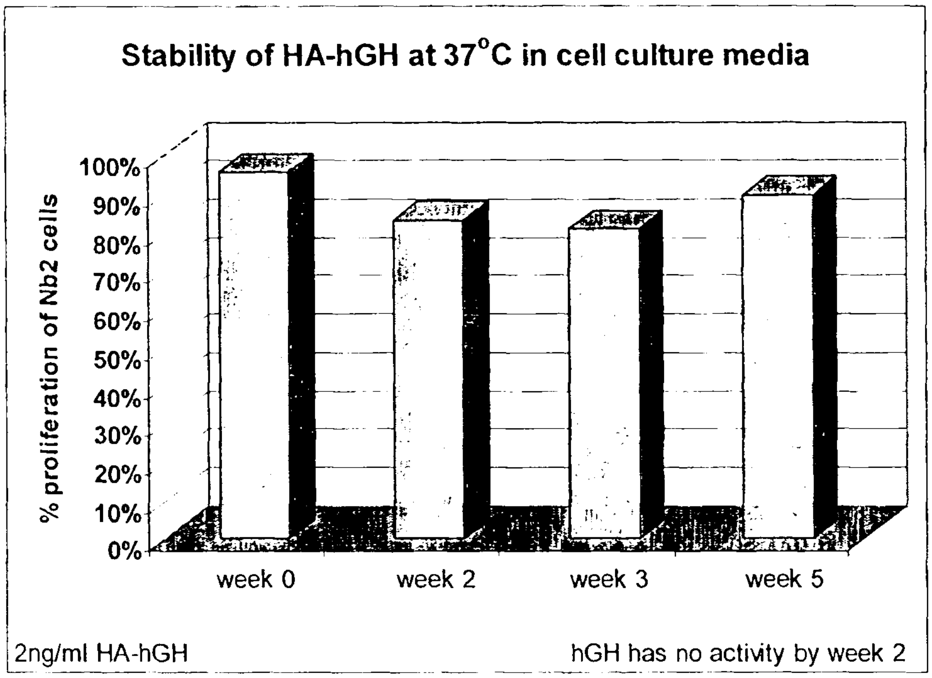
Stability of HA-hGH at 37°C in cell culture media
% proliferation of Nb2 cells
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
week 0
week 2
week 3
week 5
2ng/ml HA-hGH
hGH has no activity by week 2

Figure 1

30. The method of claim 29, wherein the disease or disorder comprises indication:Y.

31. A method of treating a patient with a disease or disorder that is modulated by Therapeutic protein:X, or fragment or variant thereof, comprising the step of administering an effective amount of the albumin fusion protein of any one of claims 1-26.

32. The method of claim 31, wherein the disease or disorder is indication:Y.

33. A method of extending the shelf life of Therapeutic protein:X comprising the step of fusing the Therapeutic protein:X, or fragment or variant thereof, to albumin or a fragment or variant thereof, sufficient to extend the shelf-life of the Therapeutic protein:X, or fragment or variant thereof, compared to the shelf-life of the Therapeutic protein:X , or a fragment or variant thereof, in an unfused state.

34. A nucleic acid molecule comprising a polynucleotide sequence encoding the albumin fusion protein of any one of claims 1-26.

35. A vector comprising the nucleic acid molecule of claim 34.

36. A host cell comprising the nucleic acid molecule of claim 35.

of the Therapeutic protein:X, or fragment or variant thereof, fused to albumin compared to the in vivo biological activity of the Therapeutic protein:X , or a fragment or variant thereof, in an unfused state.

20. The albumin fusion protein of any one of claims 1-19, which is non-glycosylated.

21. The albumin fusion protein of any one of claims 1-19, which is expressed in yeast.

22. The albumin fusion protein of claim 21, wherein the yeast is glycosylation deficient.

23. The albumin fusion protein of claim 21 wherein the yeast is glycosylation and protease deficient.

24. The albumin fusion protein of any one of claims 1-19, which is expressed by a mammalian cell.

25. The albumin fusion protein of any one of claims 1-19, wherein the albumin fusion protein is expressed by a mammalian cell in culture.

26. The albumin fusion protein of any one of claims 1-19, wherein the albumin fusion protein further comprises a secretion leader sequence.

27. A composition comprising the albumin fusion protein of any one of claims 1-26 and a pharmaceutically acceptable carrier.

28. A kit comprising the composition of claim 27.

29. A method of treating a disease or disorder in a patient, comprising the step of administering the albumin fusion protein of any one of claims 1-26.

15. An albumin fusion protein comprising a Therapeutic protein:X, or fragment or variant thereof, inserted into an albumin comprising the amino acid sequence of SEQ ID NO:18 or fragment or variant thereof.

16. An albumin fusion protein comprising a Therapeutic protein:X, or fragment or variant thereof, inserted into an albumin comprising an amino acid sequence selected from the group consisting of:

(a) amino acids 54 to 61 of SEQ ID NO:18;
(b) amino acids 76 to 89 of SEQ ID NO:18;
(c) amino acids 92 to100 of SEQ ID NO:18;
(d) amino acids 170 to 176 of SEQ ID NO:18;
(e) amino acids 247 to 252 of SEQ ID NO:18;
(f) amino acids 266 to 277 of SEQ ID NO:18;
(g) amino acids 280 to 288 of SEQ ID NO:18;
(h) amino acids 362 to 368 of SEQ ID NO:18;
(i) amino acids 439 to 447 of SEQ ID NO:18;
(j) amino acids 462 to 475 of SEQ ID NO:18;
(k) amino acids 478 to 486 of SEQ ID NO:18; and
(l) amino acids 560 to 566 of SEQ ID NO:18.

17. The albumin fusion protein of claims 15 or 16, wherein said albumin fusion protein comprises a portion of albumin sufficient to prolong the shelf-life of the Therapeutic protein:X, or fragment or variant thereof, as compared to the shelf-life of the Therapeutic protein:X , or a fragment or variant thereof, in an unfused state.

18. The albumin fusion protein of claims 15 or 16, wherein said albumin fusion protein comprises a portion of albumin sufficient to prolong the in vitro biological activity of the Therapeutic protein:X, or fragment or variant thereof, fused to albumin as compared to the in vitro biological activity of the Therapeutic protein:X , or a fragment or variant thereof, in an unfused state.

19. The albumin fusion protein of claims 15 or 16 wherein said albumin fusion protein comprises a portion of albumin sufficient to prolong the in vivo biological activity

9. The albumin fusion protein of any one of claims 1-5, which comprises a first Therapeutic protein:X, or fragment or variant thereof, and a second Therapeutic protein:X, or fragment or variant thereof, wherein said first Therapeutic protein:X, or fragment or variant thereof, is different from said second Therapeutic protein:X, or fragment or variant thereof.

10. The albumin fusion protein of any one of claims 1-8, wherein the Therapeutic protein:X, or fragment or variant thereof, is separated from the albumin or the fragment or variant of albumin by a linker.

11. The albumin fusion protein of any one of claims 1-8, wherein the albumin fusion protein has the following formula:

R1-L-R2; R2-L-R1; or R1-L-R2-L-R1,

wherein R1 is Therapeutic protein:X, or fragment or variant thereof, L is a peptide linker, and R2 is albumin comprising the amino acid sequence of SEQ ID NO:18 or fragment or variant of albumin.

12. The albumin fusion protein of any one of claims 1-11, wherein the shelf-life of the albumin fusion protein is greater than the shelf-life of the Therapeutic protein:X in an unfused state.

13. The albumin fusion protein of any one of claims 1-11, wherein the in vitro biological activity of the Therapeutic protein:X, or fragment or variant thereof, fused to albumin, or fragment or variant thereof, is greater than the in vitro biological activity of the Therapeutic protein:X, or a fragment or variant thereof, in an unfused state.

14. The albumin fusion protein of any one of claims 1-11, wherein the in vivo biological activity of the Therapeutic protein:X, or fragment or variant thereof, fused to albumin, or fragment or variant thereof, is greater than the in vivo biological activity of the Therapeutic protein:X , or a fragment or variant thereof, in an unfused state.

What is claimed:

1. An albumin fusion protein comprising a Therapeutic protein:X and albumin comprising the amino acid sequence of SEQ ID NO:18.

2. An albumin fusion protein comprising a Therapeutic protein:X and a fragment or a variant of the amino acid sequence of SEQ ID NO:18, wherein said fragment or variant has albumin activity.

3. The albumin fusion protein of claim 2, wherein said albumin activity is the ability to prolong the shelf life of the Therapeutic protein:X compared to the shelf-life of the Therapeutic protein:X in an unfused state.

4. The albumin fusion protein of claim 2, wherein the fragment or variant comprises the amino acid sequence of amino acids 1-387 of SEQ ID NO:18.

5. An albumin fusion protein comprising a fragment or variant of a Therapeutic protein:X, and albumin comprising the amino acid sequence of SEQ ID NO:18, wherein said fragment or variant has a biological activity of the Therapeutic protein:X.

6. The albumin fusion protein of any one of claims 1-5, wherein the Therapeutic protein:X, or fragment or variant thereof, is fused to the N-terminus of albumin, or the N-terminus of the fragment or variant of albumin.

7. The albumin fusion protein of any one of claims 1-5, wherein the Therapeutic protein:X, or fragment or variant thereof, is fused to the C-terminus of albumin, or the C-terminus of the fragment or variant of albumin.

8. The albumin fusion protein of any one of claims 1-5, wherein the Therapeutic protein:X, or fragment or variant thereof, is fused to the N- terminus and C-terminus of albumin, or the N-terminus and the C-terminus of the fragment or variant of albumin.

09/489,847	24-Jan-2000
US99/17130	29-Jul-1999
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09/565,391	05-May-2000
US99/29950	16-Dec-1999
09/591,316	09-Jun-2000
09/618,150	17-Jul-2000
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09/628,508	28-Jul-2000
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US00/06783	16-Mar-2000
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09/684,524	10-Oct-2000
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US00/19735	20-Jul-2000
US00/22325	16-Aug-2000
US00/24008	31-Aug-2000
US00/26013	22-Sep-2000
US00/28664	17-Oct-2000
60/277340	21-Mar-01
09/781,417	13-Feb-01
09/789,561	22-Feb-01
09/800,729	08-Mar-01
09/756,168	09-Jan-01

Furthermore, the contents and sequence listings of Application Nos. 09/091,873 filed June 25, 1998; 60/229,358 filed on April 12, 2000; 60/199,384 filed on April 25,2000 and 60/256,931 filed on December 21, 2000 are hereby incorporation by reference in their entirety.

US98/17044	18-Aug-1998
09/716,128	17-Nov-2000
09/729,835	06-Dec-2000
US98/17709	27-Aug-1998
09/257,179	25-Feb-1999
US98/18360	03-Sep-1998
60/262,066	18-Jan-2001
09/722,329	28-Nov-2000
09/262,109	04-Mar-1999
US98/20775	01-Oct-1998
09/281,976	31-Mar-1999
09/288,143	08-Apr-1999
60/244,591	01-Nov-2000
US98/21142	08-Oct-1998
US98/22376	23-Oct-1998
09/296,622	23-Apr-1999
60/239,893	13-Oct-2000
09/305,736	05-May-1999
US98/23435	04-Nov-1998
US98/27059	17-Dec-1998
09/334,595	17-Jun-1999
09/348,457	07-Jul-1999
09/739,907	20-Dec-2000
US99/00108	06-Jan-1999
60/232,150	12-Sep-2000
09/363,044	29-Jul-1999
US99/01621	27-Jan-1999
US99/02293	04-Feb-1999
09/369,247	05-Aug-1999
09/716,129	17-Nov-2000
US99/03939	24-Feb-1999
US99/05721	11-Mar-1999
09/393,022	09-Sep-1999
09/397,945	17-Sep-1999
60/231,846	11-Sep-2000
US99/09847	06-May-1999
09/437,658	10-Nov-1999
US99/13418	15-Jun-1999
60/263,681	24-Jan-2001
60/263,230	23-Jan-2001
09/461,325	14-Dec-1999
US99/15849	14-Jul-1999
60/234,925	25-Sep-2000
US01/00911	12-Jan-2001
09/482,273	13-Jan-2000

60/096,319	12-Aug-1998
60/095,455	06-Aug-1998
60/095,454	06-Aug-1998
60/097,917	25-Aug-1998
60/098,634	31-Aug-1998
60/101,546	23-Sep-1998
60/102,895	02-Oct-1998
60/108,207	12-Nov-1998
60/236,326	29-Sep-2000
US01/01432	17-Jan-2001
US98/04482	06-Mar-1998
09/148,545	04-Sep-1998
09/149,476	08-Sep-1998
US98/04493	06-Mar-1998
60/190,068	17-Mar-2000
US98/04858	12-Mar-1998
09/152,060	11-Sep-1998
60/265,583	02-Feb-2001
09/154,707	17-Sep-1998
US98/05311	19-Mar-1998
US98/06801	07-Apr-1998
09/166,780	06-Oct-1998
09/189,144	10-Nov-1998
US98/10868	28-May-1998
60/184,836	24-Feb-2000
60/193,170	29-Mar-2000
US98/11422	04-Jun-1998
09/205,258	04-Dec-1998
US98/12125	11-Jun-1998
09/209,462	11-Dec-1998
09/213,365	17-Dec-1998
US98/13608	30-Jun-1998
60/239,899	13-Oct-2000
US98/13684	07-Jul-1998
60/180,909	08-Feb-2000
US98/14613	15-Jul-1998
09/229,982	14-Jan-1999
US98/15949	29-Jul-1998
09/236,557	26-Jan-1999
09/666,984	21-Sep-2000
2,298,852	29-Jul-1998
60/238,291	06-Oct-2000
US98/16235	04-Aug-1998
09/244,112	04-Feb-1999
09/251,329	17-Feb-1999

60/073,167	30-Jan-1998
60/073,162	30-Jan-1998
60/073,161	30-Jan-1998
60/073,170	30-Jan-1998
60/074,341	09-Feb-1998
60/074,141	09-Feb-1998
60/077,714	12-Mar-1998
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60/085,180	12-May-1998
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60/085,094	12-May-1998
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60/085,906	18-May-1998
60/085,927	18-May-1998
60/085,924	18-May-1998
60/085,925	18-May-1998
60/085,921	18-May-1998
60/085,922	18-May-1998
60/085,923	18-May-1998
60/090,112	22-Jun-1998
60/089,507	16-Jun-1998
60/089,508	16-Jun-1998
60/089,510	16-Jun-1998
60/089,509	16-Jun-1998
60/090,113	22-Jun-1998
60/092,956	15-Jul-1998
60/092,921	15-Jul-1998
60/092,922	15-Jul-1998
60/094,657	30-Jul-1998
60/095,486	05-Aug-1998

US01/01434	17-Jan-2001
60/226,281	18-Aug-2000
US01/01397	17-Jan-2001
60/231,969	12-Sep-2000
US01/01385	17-Jan-2001
60/228,086	28-Aug-2000
60/259,516	04-Jan-2001
US01/01384	17-Jan-2001
60/228,083	28-Aug-2000
60/259,804	05-Jan-2001
US01/01383	17-Jan-2001
60/064,988	07-Nov-1997
60/064,912	07-Nov-1997
60/064,900	07-Nov-1997
60/064,983	07-Nov-1997
60/064,911	07-Nov-1997
60/064,985	07-Nov-1997
60/064,908	07-Nov-1997
60/064,984	07-Nov-1997
60/064,987	07-Nov-1997
60/066,100	17-Nov-1997
60/066,095	17-Nov-1997
60/066,089	17-Nov-1997
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60/066,094	17-Nov-1997
60/068,007	18-Dec-1997
60/068,006	18-Dec-1997
60/068,008	18-Dec-1997
60/068,057	18-Dec-1997
60/070,923	18-Dec-1997
60/068,053	18-Dec-1997
60/068,054	18-Dec-1997
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60/068,365	19-Dec-1997
60/070,704	07-Jan-1998
60/070,657	07-Jan-1998
60/070,658	07-Jan-1998
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60/215,140	30-Jun-2000
US00/30653	08-Nov-2000
60/164,735	12-Nov-1999
60/221,193	27-Jul-2000
60/222,904	03-Aug-2000
60/164,825	12-Nov-1999
US00/30629	08-Nov-2000
60/224,007	04-Aug-2000
US00/30679	08-Nov-2000
60/164,834	12-Nov-1999
60/164,750	12-Nov-1999
60/215,128	30-Jun-2000
US00/30674	08-Nov-2000
60/166,415	19-Nov-1999
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60/215,136	30-Jun-2000
60/166,414	19-Nov-1999
60/219,665	21-Jul-2000
US00/31282	15-Nov-2000
60/215,132	30-Jun-2000
60/164,731	12-Nov-1999
US00/30657	08-Nov-2000
60/256,968	21-Dec-2000
60/226,280	18-Aug-2000
US01/01396	17-Jan-2001
60/226,380	18-Aug-2000
US01/01387	17-Jan-2001
60/259,803	05-Jan-2001
US01/01567	17-Jan-2001
60/228,084	28-Aug-2000
US01/01431	17-Jan-2001
60/231,968	12-Sep-2000
60/234,211	20-Sep-2000
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60/226,282	18-Aug-2000
US01/01435	17-Jan-2001
60/232,104	12-Sep-2000
US01/01386	17-Jan-2001
60/234,210	20-Sep-2000
US01/01565	17-Jan-2001
60/259,805	05-Jan-2001
US01/01394	17-Jan-2001
60/226,278	18-Aug-2000
60/259,678	05-Jan-2001
60/226,279	18-Aug-2000

60/155,804	27-Sep-1999
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60/155,805	27-Sep-1999
US00/26337	26-Sep-2000
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60/215,139	30-Jun-2000
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60/221,142	27-Jul-2000
US00/30654	08-Nov-2000
60/164,835	12-Nov-1999
60/164,744	12-Nov-1999
US00/30628	08-Nov-2000

60/128,703	09-Apr-1999
60/176,929	20-Jan-2000
US00/09067	06-Apr-2000
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60/138,629	11-Jun-1999
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60/242,710	25-Oct-2000
60/126,506	26-Mar-1999
US00/07723	23-Mar-2000
60/174,850	07-Jan-2000
US00/07724	23-Mar-2000
60/126,510	26-Mar-1999
60/138,573	11-Jun-1999
US00/14929	01-Jun-2000
60/174,851	07-Jan-2000
60/126,508	26-Mar-1999
US00/07722	23-Mar-2000
60/174,871	07-Jan-2000
US00/07578	23-Mar-2000
60/174,872	07-Jan-2000
60/126,507	26-Mar-1999
60/174,877	07-Jan-2000
US00/07726	23-Mar-2000
60/126,597	26-Mar-1999
60/126,601	26-Mar-1999
US00/07677	23-Mar-2000
60/176,064	14-Jan-2000
60/154,373	17-Sep-1999
60/176,063	14-Jan-2000
US00/07725	23-Mar-2000
60/126,602	26-Mar-1999
60/176,052	14-Jan-2000
US00/09070	06-Apr-2000
60/128,695	09-Apr-1999
US00/08982	06-Apr-2000
60/128,696	09-Apr-1999
60/176,069	14-Jan-2000
60/176,068	14-Jan-2000
US00/08983	06-Apr-2000

60/125,361	19-Mar-1999
60/169,910	10-Dec-1999
60/125,812	23-Mar-1999
60/169,936	10-Dec-1999
US00/06782	16-Mar-2000
60/126,054	23-Mar-1999
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60/169,916	10-Dec-1999
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60/169,946	10-Dec-1999
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60/125,358	19-Mar-1999
US00/06828	16-Mar-2000
60/169,616	08-Dec-1999
60/125,364	19-Mar-1999
60/169,623	08-Dec-1999
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60/169,617	08-Dec-1999
US00/06781	16-Mar-2000
60/125,363	19-Mar-1999
60/172,410	17-Dec-1999
60/126,502	26-Mar-1999
US00/07505	22-Mar-2000
60/126,503	26-Mar-1999
60/172,409	17-Dec-1999
US00/07440	22-Mar-2000
60/126,505	26-Mar-1999
60/172,412	17-Dec-1999
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60/126,594	26-Mar-1999
60/172,408	17-Dec-1999
US00/07507	22-Mar-2000
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60/126,511	26-Mar-1999
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60/171,549	22-Dec-1999
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60/126,598	26-Mar-1999
US00/07534	22-Mar-2000
US00/07483	22-Mar-2000
60/171,552	22-Dec-1999
60/126,596	26-Mar-1999
60/126,600	26-Mar-1999

US00/12788	11-May-2000
60/167,061	23-Nov-1999
60/124,146	12-Mar-1999
US00/06043	09-Mar-2000
60/124,093	12-Mar-1999
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60/166,989	23-Nov-1999
US00/06058	09-Mar-2000
60/124,145	12-Mar-1999
60/168,654	03-Dec-1999
60/124,099	12-Mar-1999
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60/168,661	03-Dec-1999
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60/138,598	11-Jun-1999
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60/168,662	03-Dec-1999
60/125,360	19-Mar-1999
US00/06049	09-Mar-2000
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60/138,574	11-Jun-1999
60/124,144	12-Mar-1999
60/124,142	12-Mar-1999
60/138,597	11-Jun-1999
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60/125,359	19-Mar-1999
60/168,664	03-Dec-1999
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60/061,529	09-Oct-1997
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60/061,463	09-Oct-1997
60/061,536	09-Oct-1997
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60/076,051	26-Feb-1998
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60/152,315	03-Sep-1999
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60/172,411	17-Dec-1999
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60/056,732	19-Aug-1997
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60/056,555	19-Aug-1997
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60/060,865	02-Oct-1997
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60/057,770	05-Sep-1997
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60/058,665	12-Sep-1997
60/058,971	12-Sep-1997
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60/056,250	29-Aug-1997
60/056,296	29-Aug-1997
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60/048,189	30-May-1997
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60/049,020	06-Jun-1997
60/057,667	05-Sep-1997

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60/040,163	07-Mar-1997
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60/047,595	23-May-1997
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60/043,671	11-Apr-1997
60/047,596	23-May-1997
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60/047,588	23-May-1997
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60/056,881	22-Aug-1997
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60/047,613	23-May-1997
60/038,621	07-Mar-1997
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60/056,911	22-Aug-1997
60/047,492	23-May-1997
60/047,584	23-May-1997
60/047,500	23-May-1997

PCR samples are then electrophoresed on a 1.3% agarose gel. DNA bands of the expected sizes (~506 base pairs for VH domains, and 344 base pairs for VL domains) can be cut out of the gel and purified using methods well known in the art. Purified PCR products can be ligated into a PCR cloning vector (TA vector from Invitrogen Inc., Carlsbad, CA). Individual cloned PCR products can be isolated after transfection of E. coli and blue/white color selection. Cloned PCR products may then be sequenced using methods commonly known in the art.

The PCR bands containing the VH domain and the VL domains can also be used to create full-length Ig expression vectors. VH and VL domains can be cloned into vectors containing the nucleotide sequences of a heavy (e.g., human IgG1 or human IgG4) or light chain (human kappa or human lambda) constant regions such that a complete heavy or light chain molecule could be expressed from these vectors when transfected into an appropriate host cell. Further, when cloned heavy and light chains are both expressed in one cell line (from either one or two vectors), they can assemble into a complete functional antibody molecule that is secreted into the cell culture medium. Methods using polynucleotides encoding VH and VL antibody domain to generate expression vectors that encode complete antibody molecules are well known within the art.

It will be clear that the invention may be practiced otherwise than as particularly described in the foregoing description and examples. Numerous modifications and variations of the present invention are possible in light of the above teachings and, therefore, are within the scope of the appended claims.

The entire disclosure of each document cited (including patents, patent applications, patent publications, journal articles, abstracts, laboratory manuals, books, or other disclosures) as well as information available through Identifiers specific to databases such as GenBank, GeneSeq, or the CAS Registry, referred to in this application are herein incorporated by reference in their entirety. The specification and sequence listing of each of the following U.S. applications are herein incorporated by reference in their entirety:

ApplNumber	File Date
60/047,599	23-May-1997
60/043,576	11-Apr-1997

Table 3: Primer Sequences Used to Amplify VH and VL domains.

Primer name	SEQ ID NO	Primer Sequence (5'-3')
VH Primers		
Hu VH1-5'	36	CAGGTGCAGCTGGTGCAGTCTGG
Hu VH2-5'	37	CAGGTCAACTTAAGGGAGTCTGG
Hu VH3-5'	38	GAGGTGCAGCTGGTGGAGTCTGG
Hu VH4-5'	39	CAGGTGCAGCTGCAGGAGTCGGG
Hu VH5-5'	40	GAGGTGCAGCTGTTGCAGTCTGC
Hu VH6-5'	41	CAGGTACAGCTGCAGCAGTCAGG
Hu JH1,2-5'	42	TGAGGAGACGGTGACCAGGGTGCC
Hu JH3-5'	43	TGAAGAGACGGTGACCATTGTCCC
Hu JH4,5-5'	44	TGAGGAGACGGTGACCAGGGTTCC
Hu JH6-5'	45	TGAGGAGACGGTGACCGTGGTCCC
VL Primers		
Hu Vkappa1-5'	46	GACATCCAGATGACCCAGTCTCC
Hu Vkappa2a-5'	47	GATGTTGTGATGACTCAGTCTCC
Hu Vkappa2b-5'	48	GATATTGTGATGACTCAGTCTCC
Hu Vkappa3-5'	49	GAAATTGTGTTGACGCAGTCTCC
Hu Vkappa4-5'	50	GACATCGTGATGACCCAGTCTCC
Hu Vkappa5-5'	51	GAAACGACACTCACGCAGTCTCC
Hu Vkappa6-5'	52	GAAATTGTGCTGACTCAGTCTCC
Hu Vlambda1-5'	53	CAGTCTGTGTTGACGCAGCCGCC
Hu Vlambda2-5'	54	CAGTCTGCCCTGACTCAGCCTGC
Hu Vlambda3-5'	55	TCCTATGTGCTGACTCAGCCACC
Hu Vlambda3b-5'	56	TCTTCTGAGCTGACTCAGGACCC
Hu Vlambda4-5'	57	CACGTTATACTGACTCAACCGCC
Hu Vlambda5-5'	58	CAGGCTGTGCTCACTCAGCCGTC
Hu Vlambda6-5'	59	AATTTTATGCTGACTCAGCCCCA
Hu Jkappa1-3'	60	ACGTTTGATTTCCACCTTGGTCCC
Hu Jkappa2-3'	61	ACGTTTGATCTCCAGCTTGGTCCC
Hu Jkappa3-3'	62	ACGTTTGATATCCACTTTGGTCCC
Hu Jkappa4-3'	63	ACGTTTGATCTCCACCTTGGTCCC
Hu Jkappa5-3'	64	ACGTTTAATCTCCAGTCGTGTCCC
Hu Jlambda1-3'	65	CAGTCTGTGTTGACGCAGCCGCC
Hu Jlambda2-3'	66	CAGTCTGCCCTGACTCAGCCTGC
Hu Jlambda3--3'	67	TCCTATGTGCTGACTCAGCCACC
Hu Jlambda3b-3'	68	TCTTCTGAGCTGACTCAGGACCC
Hu Jlambda4-3'	69	CACGTTATACTGACTCAACCGCC
Hu Jlambda5-3'	70	CAGGCTGTGCTCACTCAGCCGTC
Hu Jlambda6-3'	71	AATTTTATGCTGACTCAGCCCCA

(Life Technologies, Rockville. MD) and extracted with one fifth volume of chloroform. After addition of chloroform, the solution is allowed to incubate at room temperature for 10 minutes, and the centrifuged at 14,000 rpm for 15 minutes at 4°C in a tabletop centrifuge. The supernatant is collected and RNA is precipitated using an equal volume of isopropanol. Precipitated RNA is pelleted by centrifuging at 14,000 rpm for 15 minutes at 4°C in a tabletop centrifuge. Following centrifugation, the supernatant is discarded and washed with 75% ethanol. Follwing washing, the RNA is centrifuged again at 800 rpm for 5 minutes at 4°C. The supernatant is discarded and the pellet allowed to air dry. RNA is the dissolved in DEPC water and heated to 60°C for 10 minutes. Quantities of RNA can determined using optical density measurements.

cDNA may be synthesized, according to methods well-known in the art, from 1.5-2.5 micrograms of RNA using reverse transciptase and random hexamer primers. cDNA is then used as a template for PCR amplification of VH and VL domains. Primers used to amplify VH and VL genes are shown in Table 3. Typically a PCR reaction makes use of a single 5' primer and a single 3' primer. Sometimes, when the amount of available RNA template is limiting, or for greater efficiency, groups of 5' and/or 3' primers may be used. For example, sometimes all five VH-5' primers and all JH3' primers are used in a single PCR reaction. The PCR reaction is carried out in a 50 microliter volume containing 1X PCR buffer, 2mM of each dNTP, 0.7 units of High Fidelity Taq polymerse, 5' primer mix, 3' primer mix and 7.5 microliters of cDNA. The 5' and 3' primer mix of both VH and VL can be made by pooling together 22 pmole and 28 pmole, respectively, of each of the individual primers. PCR conditions are: 96°C for 5 minutes; followed by 25 cycles of 94°C for 1 minute, 50°C for 1 minute, and 72°C for 1 minute; followed by an extension cycle of 72°C for 10 minutes. After the reaction is completed, sample tubes are stored 4°C.

= 5 μM against MMP-3], and MMP-3 inhibitor II [K_i = 130 nM against MMP-3]; inhibitors available through Calbiochem, catalog # 444250, 444218, and 444225, respectively). Briefly, different concentrations of the small molecule MMP inhibitors are mixed with a purified fusion protein of the invention (50μg/ml) in 22.9 μl of 1x HEPES buffer (50 mM HEPES, pH 7.5, 0.2 M NaCl, 10 mM $CaCl_2$, 25 μM $ZnCl_2$ and 0.05%Brij-35) and incubated at room temperature (24 °C) for 2-hr, then 7.1 μl of substrate alpha-2-macroglobulin (0.2 unit/ml) is added and incubated at 37°C for 20-hr. The reactions are stopped by adding 4x sample buffer and boiled immediately for 5 minutes. After SDS-PAGE, the protein bands are visualized by silver stain.

Synthetic Fluorogenic Peptide Substrates Cleavage Assay

The substrate specificity for fusion proteins of the invention with demonstrated metalloproteinase activity may be determined using techniques knonw in the art, such as using synthetic fluorogenic peptide substrates (purchased from BACHEM Bioscience Inc). Test substrates include, M-1985, M-2225, M-2105, M-2110, and M-2255. The first four are MMP substrates and the last one is a substrate of tumor necrosis factor-α (TNF-α) converting enzyme (TACE). These substrastes are preferably prepared in 1:1 dimethyl sulfoxide (DMSO) and water. The stock solutions are 50-500 μM. Fluorescent assays are performed by using a Perkin Elmer LS 50B luminescence spectrometer equipped with a constant temperature water bath. The excitation λ is 328 nm and the emission λ is 393 nm. Briefly, the assay is carried out by incubating 176 μl 1x HEPES buffer (0.2 M NaCl, 10 mM $CaCl_2$, 0.05% Brij-35 and 50 mM HEPES, pH 7.5) with 4 μl of substrate solution (50 μM) at 25 °C for 15 minutes, and then adding 20 μl of a purified fusion protein of the invention into the assay cuvett. The final concentration of substrate is 1 μM. Initial hydrolysis rates are monitored for 30-min.

Example 60:Identification and Cloning of VH and VL domains

One method to identfy and clone VH and VL domains from cell lines expressing a particular antibody is to perform PCR with VH and VL specific primers on cDNA made from the antibody expressing cell lines. Briefly, RNA is isolated from the cell lines and used as a template for RT-PCR designed to amplify the VH and VL domains of the antibodies expressed by the EBV cell lines. Cells may be lysed in the TRIzol® reagent

1.5 mg/ml (4mM) BACH or 2 mg/ml (7.5mM) biotin-hydrazide for 1 hr at room temperature (reaction volume, 150ul). Then the sample is dialyzed (Pierce Slidealizer Cassett, 10 kDa cutoff; Pierce Chemical Co., Rockford IL) at 4C first for 5 h, exchanging the buffer after each hour, and finally for 12 h against 500 ml buffer R (0.15 M NaCl, 1 mM MgCl2, 10 mM sodium phosphate, pH7). Just before addition into a cuvette, the sample is diluted 1:5 in buffer ROG50 (Buffer R supplemented with 50 mM octylglucoside).

Example 59: Assays for Metalloproteinase Activity

Metalloproteinases are peptide hydrolases which use metal ions, such as Zn^{2+}, as the catalytic mechanism. Metalloproteinase activity of an albumin fusion protein of the present invention can be assayed according to methods known in the art. The following exemplary methods are provided:

Proteolysis of alpha-2-macroglobulin

To confirm protease activity, a purified fusion protein of the invention is mixed with the substrate alpha-2-macroglobulin (0.2 unit/ml; Boehringer Mannheim, Germany) in 1x assay buffer (50 mM HEPES, pH 7.5, 0.2 M NaCl, 10 mM $CaCl_2$, 25 μM $ZnCl_2$ and 0.05% Brij-35) and incubated at 37°C for 1-5 days. Trypsin is used as positive control. Negative controls contain only alpha-2-macroglobulin in assay buffer. The samples are collected and boiled in SDS-PAGE sample buffer containing 5% 2-mercaptoethanol for 5-min, then loaded onto 8% SDS-polyacrylamide gel. After electrophoresis the proteins are visualized by silver staining. Proteolysis is evident by the appearance of lower molecular weight bands as compared to the negative control.

Inhibition of alpha-2-macroglobulin proteolysis by inhibitors of metalloproteinases

Known metalloproteinase inhibitors (metal chelators (EDTA, EGTA, AND $HgCl_2$), peptide metalloproteinase inhibitors (TIMP-1 and TIMP-2), and commercial small molecule MMP inhibitors) may also be used to characterize the proteolytic activity of an albumin fusion protein of the invention. Three synthetic MMP inhibitors that may be used are: MMP inhibitor I, [IC_{50} = 1.0 μM against MMP-1 and MMP-8; IC_{50} = 30 μM against MMP-9; IC_{50} = 150 μM against MMP-3]; MMP-3 (stromelysin-1) inhibitor I [IC_{50}

invention is covalently coupled to a chromatography column. Cell-free extract derived from putative target cells, such as neural or liver cells, is passed over the column, and molecules with appropriate affinity bind to the fusion protein. The fusion protein -complex is recovered from the column, dissociated, and the recovered molecule subjected to N-terminal protein sequencing. This amino acid sequence is then used to identify the captured molecule or to design degenerate oligonucleotide probes for cloning the relevant gene from an appropriate cDNA library.

Example 57: Assaying for Heparanase Activity

There a numerous assays known in the art that may be employed to assay for heparanase activity of an albumin fusion protein of the invention. In one example, heparanase activity of an albumin fusion protein of the invention, is assayed as described by Vlodavsky et al., (Vlodavsky et al., Nat. Med., 5:793-802 (1999)). Briefly, cell lysates, conditioned media, intact cells (1 x 10^6 cells per 35-mm dish), cell culture supernatant, or purified fusion protein are incubated for 18 hrs at 37°C, pH 6.2-6.6, with ^{35}S-labeled ECM or soluble ECM derived peak I proteoglycans. The incubation medium is centrifuged and the supernatant is analyzed by gel filtration on a Sepharose CL-6B column (0.9 x 30 cm). Fractions are eluted with PBS and their radioactivity is measured. Degradation fragments of heparan sulfate side chains are eluted from Sepharose 6B at $0.5 < K_{av} < 0.8$ (peak II). Each experiment is done at least three times. Degradation fragments corresponding to "peak II," as described by Vlodavsky et al., is indicative of the activity of an albumin fusion protein of the invention in cleaving heparan sulfate.

Example 58: Immobilization of biomolecules

This example provides a method for the stabilization of an albumin fusion protein of the invention in non-host cell lipid bilayer constucts (see, e.g., Bieri et al., Nature Biotech 17:1105-1108 (1999), hereby incorporated by reference in its entirety herein) which can be adapted for the study of fusion proteins of the invention in the various functional assays described above. Briefly, carbohydrate-specific chemistry for biotinylation is used to confine a biotin tag to an albumin fusion protein of the invention, thus allowing uniform orientation upon immobilization. A 50uM solution of an albumin fusion protein of the invention in washed membranes is incubated with 20 mM NaIO4 and incorporated by reference). Briefly, motor and sympathetic neurons are isolated from chicken embryos, resuspended in L15 medium (with 10% FCS, glucose, sodium selenite, progesterone, conalbumin, putrescine, and insulin; Life Technologies, Rockville, MD.) and Dulbecco's modified Eagles medium [with 10% FCS, glutamine, penicillin, and 25 mM Hepes buffer (pH 7.2); Life Technologies, Rockville, MD.], respectively, and incubated at 37°C in 5% CO_2 in the presence of different concentrations of the purified fusion protein of the invention, as well as a negative control lacking any cytokine. After 3 days, neuron survival is determined by evaluation of cellular morphology, and through the use of the colorimetric assay of Mosmann (Mosmann, T., *J. Immunol. Methods, 65*:55-63 (1983)). Enhanced neuronal cell viability as compared to the controls lacking cytokine is indicative of the ability of the albumin fusion protein to enhance the survival of neuronal cells.

Example 55: Assay for Phosphatase Activity

The following assay may be used to assess serine/threonine phosphatase (PTPase) activity of an albumin fusion protein of the invention.

In order to assay for serine/threonine phosphatase (PTPase) activity, assays can be utilized which are widely known to those skilled in the art. For example, the serine/threonine phosphatase (PSPase) activity of an albumin fusion protein of the invention may be measured using a PSPase assay kit from New England Biolabs, Inc. Myelin basic protein (MyBP), a substrate for PSPase, is phosphorylated on serine and threonine residues with cAMP-dependent Protein Kinase in the presence of [^{32}P]ATP. Protein serine/threonine phosphatase activity is then determined by measuring the release of inorganic phosphate from 32P-labeled MyBP.

Example 56: Interaction of Serine/Threonine Phosphatases with other Proteins

Fusion protein of the invention having serine/threonine phosphatase activity (e.g., as determined in Example 55) are useful, for example, as research tools for the identification, characterization and purification of additional interacting proteins or receptor proteins, or other signal transduction pathway proteins. Briefly, a labeled fusion protein of the invention is useful as a reagent for the purification of molecules with which it interacts. In one embodiment of affinity purification, an albumin fusion protein of the

Example 52: Identification Of Signal Transduction Proteins That Interact With An albumin fusion protein Of The Present Invention

Albumin fusion proteins of the invention may serve as research tools for the identification, characterization and purification of signal transduction pathway proteins or receptor proteins. Briefly, a labeled fusion protein of the invention is useful as a reagent for the purification of molecules with which it interacts. In one embodiment of affinity purification, an albumin fusion protein of the invention is covalently coupled to a chromatography column. Cell-free extract derived from putative target cells, such as carcinoma tissues, is passed over the column, and molecules with appropriate affinity bind to the albumin fusion protein. The protein complex is recovered from the column, dissociated, and the recovered molecule subjected to N-terminal protein sequencing. This amino acid sequence is then used to identify the captured molecule or to design degenerate oligonucleotide probes for cloning the relevant gene from an appropriate cDNA library.

Example 53: IL-6 Bioassay

A variety of assays are known in the art for testing the proliferative effects of an albumin fusion protein of the invention. For example, one such asssay is the IL-6 Bioassay as described by Marz *et al.* (*Proc. Natl. Acad. Sci., U.S.A., 95*:3251-56 (1998), which is herein incorporated by reference). After 68 hrs. at 37°C, the number of viable cells is measured by adding the tetrazolium salt thiazolyl blue (MTT) and incubating for a further 4 hrs. at 37°C. B9 cells are lysed by SDS and optical density is measured at 570 nm. Controls containing IL-6 (positive) and no cytokine (negative) are Briefly, IL-6 dependent B9 murine cells are washed three times in IL-6 free medium and plated at a concentration of 5,000 cells per well in 50 µl, and 50 µl of fusion protein of the invention is added. utilized. Enhanced proliferation in the test sample(s) (containing an albumin fusion protein of the invention) relative to the negative control is indicative of proliferative effects mediated by the fusion protein.

Example 54: Support of Chicken Embryo Neuron Survival

To test whether sympathetic neuronal cell viability is supported by an albumin fusion protein of the invention, the chicken embryo neuronal survival assay of Senaldi *et al* may be utilized (*Proc. Natl. Acad. Sci., U.S.A., 96*:11458-63 (1998), which is herein varying concentrations of ATP, or the non-hydrolyzable ATP analog adenyl-5'-imidodiphosphate for 10 minutes at 4°C. A mixture of 8-azido-ATP (Sigma Chem. Corp., St. Louis, MO.) plus 8-azido-ATP (^{32}P-ATP) (5 mCi/µmol, ICN, Irvine CA.) is added to a final concentration of 100 µM and 0.5 ml aliquots are placed in the wells of a porcelain spot plate on ice. The plate is irradiated using a short wave 254 nm UV lamp at a distance of 2.5 cm from the plate for two one-minute intervals with a one-minute cooling interval in between. The reaction is stopped by addition of dithiothreitol to a final concentration of 2mM. The incubations are subjected to SDS-PAGE electrophoresis, dried, and autoradiographed. Protein bands corresponding to the albumin fusion proteins of the invention are excised, and the radioactivity quantified. A decrease in radioactivity with increasing ATP or adenly-5'-imidodiphosphate provides a measure of ATP affinity to the fusion protein.

Example 50: Phosphorylation Assay

In order to assay for phosphorylation activity of an albumin fusion protein of the invention, a phosphorylation assay as described in U.S. Patent 5,958,405 (which is herein incorporated by reference) is utilized. Briefly, phosphorylation activity may be measured by phosphorylation of a protein substrate using gamma-labeled ^{32}P-ATP and quantitation of the incorporated radioactivity using a gamma radioisotope counter. The fusion portein of the invention is incubated with the protein substrate, ^{32}P-ATP, and a kinase buffer. The ^{32}P incorporated into the substrate is then separated from free ^{32}P-ATP by electrophoresis, and the incorporated ^{32}P is counted and compared to a negative control. Radioactivity counts above the negative control are indicative of phosphorylation activity of the fusion protein.

Example 51: Detection of Phosphorylation Activity (Activation) of an Albumin Fusion Protein of the Invention in the Presence of Polypeptide Ligands

Methods known in the art or described herein may be used to determine the phosphorylation activity of an albumin fusion protein of the invention. A preferred method of determining phosphorylation activity is by the use of the tyrosine phosphorylation assay as described in US 5,817,471 (incorporated herein by reference).

temperature. The Xenopus system can be used to screen known ligands and tissue/cell extracts for activating ligands.

Example 47: Microphysiometric Assays

Activation of a wide variety of secondary messenger systems results in extrusion of small amounts of acid from a cell. The acid formed is largely as a result of the increased metabolic activity required to fuel the intracellular signaling process. The pH changes in the media surrounding the cell are very small but are detectable by the CYTOSENSOR microphysiometer (Molecular Devices Ltd., Menlo Park, Calif.). The CYTOSENSOR is thus capable of detecting the ability of an albumin fusion protein of the invention to activate secondary messengers that are coupled to an energy utilizing intracellular signaling pathway.

Example 48: Extract/Cell Supernatant Screening

A large number of mammalian receptors exist for which there remains, as yet, no cognate activating ligand (agonist). Thus, active ligands for these receptors may not be included within the ligands banks as identified to date. Accordingly, the albumin fusion proteins of the invention can also be functionally screened (using calcium, cAMP, microphysiometer,, oocyte electrophysiology, etc., functional screens) against tissue extracts to identify natural ligands for the Therapeutic protein portion and/or albumin protein portion of an albumin fusion protein of the invention. Extracts that produce positive functional responses can be sequentially subfractionated until an activating ligand is isolated and identified.

Example 49: ATP-binding assay

The following assay may be used to assess ATP-binding activity of fusion proteins of the invention.

ATP-binding activity of an albumin fusion protein of the invention may be detected using the ATP-binding assay described in U.S. Patent 5,858,719, which is herein incorporated by reference in its entirety. Briefly, ATP-binding to an albumin fusion protein of the invention is measured via photoaffinity labeling with 8-azido-ATP in a competition assay. Reaction mixtures containing 1 mg/ml of ABC transport protein are incubated with

Example 44: Identifying Serine Protease Substrate Specificity

Methods known in the art or described herein may be used to determine the substrate specificity of the albumin fusion proteins of the present invention having serine protease activity. A preferred method of determining substrate specificity is by the use of positional scanning synthetic combinatorial libraries as described in GB 2 324 529 (incorporated herein in its entirety).

Example 45: Ligand Binding Assays

The following assay may be used to assess ligand binding activity of an albumin fusion protein of the invention.

Ligand binding assays provide a direct method for ascertaining receptor pharmacology and are adaptable to a high throughput format. The purified ligand for an albumin fusion protein of the invention is radiolabeled to high specific activity (50-2000 Ci/mmol) for binding studies. A determination is then made that the process of radiolabeling does not diminish the activity of the ligand towards the fusion protein. Assay conditions for buffers, ions, pH and other modulators such as nucleotides are optimized to establish a workable signal to noise ratio for both membrane and whole cell polypeptide sources. For these assays, specific polypeptide binding is defined as total associated radioactivity minus the radioactivity measured in the presence of an excess of unlabeled competing ligand. Where possible, more than one competing ligand is used to define residual nonspecific binding.

Example 46: Functional Assay in Xenopus Oocytes

Capped RNA transcripts from linearized plasmid templates encoding an albumin fusion protein of the invention is synthesized in vitro with RNA polymerases in accordance with standard procedures. In vitro transcripts are suspended in water at a final concentration of 0.2 mg/mi. Ovarian lobes are removed from adult female toads, Stage V defolliculated oocytes are obtained, and RNA transcripts (10 ng/oocyte) are injected in a 50 nl bolus using a microinjection apparatus. Two electrode voltage clamps are used to measure the currents from individual *Xenopus oocytes* in response fusion protein and polypeptide agonist exposure. Recordings are made in Ca2+ free Barth's medium at room concentration of 1 μg/ml; anti-CD4 mAb (R&D Systems, clone 34930.11, catalog number MAB379) is added to a final concentration of 10 μg/ml. Cells are cultured for 7-8 days at 37°C in 5% CO_2, and 1 μC of [^{3}H] thymidine is added to wells for the last 16 hrs of culture. Cells are harvested and thymidine incorporation determined using a Packard TopCount. Data is expressed as the mean and standard deviation of triplicate determinations.

Samples of the fusion protein of interest are screened in separate experiments and compared to the negative control treatment, anti-CD4 mAb, which inhibits proliferation of lymphocytes and the positive control treatment, IL-2 (either as recombinant material or supernatant), which enhances proliferation of lymphocytes.

Example 43: Assays for Protease Activity

The following assay may be used to assess protease activity of an albumin fusion protein of the invention.

Gelatin and casein zymography are performed essentially as described (Heusen et al., *Anal. Biochem.*, 102:196-202 (1980); Wilson et al., *Journal of Urology*, 149:653-658 (1993)). Samples are run on 10% polyacryamide/0.1% SDS gels containing 1% gelain orcasein, soaked in 2.5% triton at room temperature for 1 hour, and in 0.1M glycine, pH 8.3 at 37°C 5 to 16 hours. After staining in amido black areas of proteolysis apear as clear areas agains the blue-black background. Trypsin (Sigma T8642) is used as a positive control.

Protease activity is also determined by monitoring the cleavage of n-a-benzoyl-L-arginine ethyl ester (BAEE) (Sigma B-4500. Reactions are set up in (25mMNaPO$_4$,1mM EDTA, and 1mM BAEE), pH 7.5. Samples are added and the change in adsorbance at 260nm is monitored on the Beckman DU-6 spectrophotometer in the time-drive mode. Trypsin is used as a positive control.

Additional assays based upon the release of acid-soluble peptides from casein or hemoglobin measured as adsorbance at 280 nm or colorimetrically using the Folin method are performed as described in Bergmeyer, et al., *Methods of Enzymatic Analysis*, 5 (1984). Other assays involve the solubilization of chromogenic substrates (Ward, *Applied Science*, 251-317 (1983)).

change from oxidized (non-fluorescent blue) form to reduced (fluorescent red) form (i.e., stimulated proliferation will produce a stronger signal and inhibited proliferation will produce a weaker signal and the total signal is proportional to the total number of cells as well as their metabolic activity). The background level of activity is observed with the starvation medium alone. This is compared to the output observed from the positive control samples (bFGF in growth medium) and protein dilutions.

Example 42: Detection of Inhibition of a Mixed Lymphocyte Reaction

This assay can be used to detect and evaluate inhibition of a Mixed Lymphocyte Reaction (MLR) by fusion proteins of the invention. Inhibition of a MLR may be due to a direct effect on cell proliferation and viability, modulation of costimulatory molecules on interacting cells, modulation of adhesiveness between lymphocytes and accessory cells, or modulation of cytokine production by accessory cells. Multiple cells may be targeted by the albumin fusion proteins that inhibit MLR since the peripheral blood mononuclear fraction used in this assay includes T, B and natural killer lymphocytes, as well as monocytes and dendritic cells.

Albumin fusion proteins of the invention found to inhibit the MLR may find application in diseases associated with lymphocyte and monocyte activation or proliferation. These include, but are not limited to, diseases such as asthma, arthritis, diabetes, inflammatory skin conditions, psoriasis, eczema, systemic lupus erythematosus, multiple sclerosis, glomerulonephritis, inflammatory bowel disease, crohn's disease, ulcerative colitis, arteriosclerosis, cirrhosis, graft vs. host disease, host vs. graft disease, hepatitis, leukemia and lymphoma.

Briefly, PBMCs from human donors are purified by density gradient centrifugation using Lymphocyte Separation Medium (LSM®, density 1.0770 g/ml, Organon Teknika Corporation, West Chester, PA). PBMCs from two donors are adjusted to 2 x 10^6 cells/ml in RPMI-1640 (Life Technologies, Grand Island, NY) supplemented with 10% FCS and 2 mM glutamine. PBMCs from a third donor is adjusted to 2 x 10^5 cells/ml. Fifty microliters of PBMCs from each donor is added to wells of a 96-well round bottom microtiter plate. Dilutions of the fusion protein test material (50 μl) is added in triplicate to microtiter wells. Test samples (of the protein of interest) are added for final dilution of 1:4; rhuIL-2 (R&D Systems, Minneapolis, MN, catalog number 202-IL) is added to a final added to all wells. The plate is read on a plate reader at 405 nm using the background subtraction option on blank wells filled with glycine buffer only. Additionally, the template is set up to indicate the concentration of AP-conjugate in each standard well [5.50 ng; 1.74 ng; 0.55 ng; 0.18 ng]. Results are indicated as amount of bound AP-conjugate in each sample.

Example 41: Alamar Blue Endothelial Cells Proliferation Assay

This assay may be used to quantitatively determine protein mediated inhibition of bFGF-induced proliferation of Bovine Lymphatic Endothelial Cells (LECs), Bovine Aortic Endothelial Cells (BAECs) or Human Microvascular Uterine Myometrial Cells (UTMECs). This assay incorporates a fluorometric growth indicator based on detection of metabolic activity. A standard Alamar Blue Proliferation Assay is prepared in EGM-2MV with 10 ng /ml of bFGF added as a source of endothelial cell stimulation. This assay may be used with a variety of endothelial cells with slight changes in growth medium and cell concentration. Dilutions of protein batches to be tested are diluted as appropriate. Serum-free medium (GIBCO SFM) without bFGF is used as a non-stimulated control and Angiostatin or TSP-1 are included as a known inhibitory controls.

Briefly, LEC, BAECs or UTMECs are seeded in growth media at a density of 5000 to 2000 cells/well in a 96 well plate and placed at 37 degreesC overnight. After the overnight incubation of the cells, the growth media is removed and replaced with GIBCO EC-SFM. The cells are treated with the appropriate dilutions of an albumin fusion protein of the invention or control protein sample(s) (prepared in SFM) in triplicate wells with additional bFGF to a concentration of 10 ng/ ml. Once the cells have been treated with the samples, the plate(s) is/are placed back in the 37° C incubator for three days. After three days 10 ml of stock alamar blue (Biosource Cat# DAL1100) is added to each well and the plate(s) is/are placed back in the 37°C incubator for four hours. The plate(s) are then read at 530nm excitation and 590nm emission using the CytoFluor fluorescence reader. Direct output is recorded in relative fluorescence units.

Alamar blue is an oxidation-reduction indicator that both fluoresces and changes color in response to chemical reduction of growth medium resulting from cell growth. As cells grow in culture, innate metabolic activity results in a chemical reduction of the immediate surrounding environment. Reduction related to growth causes the indicator to

(CAMs) on lymphocytes and the vascular endothelium. The adhesion process, in both normal and pathological settings, follows a multi-step cascade that involves intercellular adhesion molecule-1 (ICAM-1), vascular cell adhesion molecule-1 (VCAM-1), and endothelial leukocyte adhesion molecule-1 (E-selectin) expression on endothelial cells (EC). The expression of these molecules and others on the vascular endothelium determines the efficiency with which leukocytes may adhere to the local vasculature and extravasate into the local tissue during the development of an inflammatory response. The local concentration of cytokines and growth factor participate in the modulation of the expression of these CAMs.

Briefly, endothelial cells (e.g., Human Umbilical Vein Endothelial cells (HUVECs)) are grown in a standard 96 well plate to confluence, growth medium is removed from the cells and replaced with 100 µl of 199 Medium (10% fetal bovine serum (FBS)). Samples for testing (containing an albumin fusion protein of the invention) and positive or negative controls are added to the plate in triplicate (in 10 µl volumes). Plates are then incubated at 37°C for either 5 h (selectin and integrin expression) or 24 h (integrin expression only). Plates are aspirated to remove medium and 100 µl of 0.1% paraformaldehyde-PBS(with Ca++ and Mg++) is added to each well. Plates are held at 4°C for 30 min. Fixative is removed from the wells and wells are washed 1X with PBS(+Ca,Mg) + 0.5% BSA and drained. 10 µl of diluted primary antibody is added to the test and control wells. Anti-ICAM-1-Biotin, Anti-VCAM-1-Biotin and Anti-E-selectin-Biotin are used at a concentration of 10 µg/ml (1:10 dilution of 0.1 mg/ml stock antibody). Cells are incubated at 37°C for 30 min. in a humidified environment. Wells are washed three times with PBS(+Ca,Mg) + 0.5% BSA. 20 µl of diluted ExtrAvidin-Alkaline Phosphatase (1:5,000 dilution, referred to herein as the working dilution) are added to each well and incubated at 37°C for 30 min. Wells are washed three times with PBS(+Ca,Mg)+0.5% BSA. Dissolve 1 tablet of p-Nitrophenol Phosphate pNPP per 5 ml of glycine buffer (pH 10.4). 100 µl of pNPP substrate in glycine buffer is added to each test well. Standard wells in triplicate are prepared from the working dilution of the ExtrAvidin-Alkaline Phosphotase in glycine buffer: 1:5,000 (10^0) > $10^{-0.5}$ > 10^{-1} > $10^{-1.5}$. 5 µl of each dilution is added to triplicate wells and the resulting AP content in each well is 5.50 ng, 1.74 ng, 0.55 ng, 0.18 ng. 100 µl of pNNP reagent is then added to each of the standard wells. The plate is incubated at 37°C for 4h. A volume of 50 µl of 3M NaOH is tabulated and averaged.

A positive result in this assay suggests AoSMC cell proliferation and that the albumin fusion protein may be involved in dermal fibroblast proliferation and/or smooth muscle cell proliferation. A positive result also suggests many potential uses of the fusion protein and polynucleotides encoding the albumin fusion protein. For example, inflammation and immune responses, wound healing, and angiogenesis, as detailed throughout this specification. Particularly, fusion proteins may be used in wound healing and dermal regeneration, as well as the promotion of vasculogenesis, both of the blood vessels and lymphatics. The growth of vessels can be used in the treatment of, for example, cardiovascular diseases. Additionally, fusion proteins showing antagonistic activity in this assay may be useful in treating diseases, disorders, and/or conditions which involve angiogenesis by acting as an anti-vascular agent (e.g., anti-angiogenesis). These diseases, disorders, and/or conditions are known in the art and/or are described herein, such as, for example, malignancies, solid tumors, benign tumors, for example hemangiomas, acoustic neuromas, neurofibromas, trachomas, and pyogenic granulomas; artheroscleric plaques; ocular angiogenic diseases, for example, diabetic retinopathy, retinopathy of prematurity, macular degeneration, corneal graft rejection, neovascular glaucoma, retrolental fibroplasia, rubeosis, retinoblastoma, uvietis and Pterygia (abnormal blood vessel growth) of the eye; rheumatoid arthritis; psoriasis; delayed wound healing; endometriosis; vasculogenesis; granulations; hypertrophic scars (keloids); nonunion fractures; scleroderma; trachoma; vascular adhesions; myocardial angiogenesis; coronary collaterals; cerebral collaterals; arteriovenous malformations; ischemic limb angiogenesis; Osler-Webber Syndrome; plaque neovascularization; telangiectasia; hemophiliac joints; angiofibroma; fibromuscular dysplasia; wound granulation; Crohn's disease; and atherosclerosis. Moreover, albumin fusion proteins that act as antagonists in this assay may be useful in treating anti-hyperproliferative diseases and/or anti-inflammatory known in the art and/or described herein.

Example 40: Cellular Adhesion Molecule (CAM) Expression on Endothelial Cells

The recruitment of lymphocytes to areas of inflammation and angiogenesis involves specific receptor-ligand interactions between cell surface adhesion molecules

After incubation at 37°C for at least 4-5 hours culture media is aspirated and replaced with growth arrest media. Growth arrest media for NHDF contains fibroblast basal media, 50mg/ml gentamycin, 2% FBS, while growth arrest media for AoSMC contains SM basal media, 50mg/ml gentamycin, 50µg/ml Amphotericin B, 0.4% FBS. Incubate at 37 °C until day 2.

On day 2, serial dilutions and templates of an albumin fusion protein of the invention are designed such that they always include media controls and known-protein controls. For both stimulation and inhibition experiments, proteins are diluted in growth arrest media. For inhibition experiments, TNFa is added to a final concentration of 2ng/ml (NHDF) or 5ng/ml (AoSMC). Add 1/3 vol media containing controls or an albumin fusion protein of the invention and incubate at 37 degrees C/5% CO_2 until day 5.

Transfer 60µl from each well to another labeled 96-well plate, cover with a plate-sealer, and store at 4 degrees C until Day 6 (for IL6 ELISA). To the remaining 100 µl in the cell culture plate, aseptically add Alamar Blue in an amount equal to 10% of the culture volume (10µl). Return plates to incubator for 3 to 4 hours. Then measure fluorescence with excitation at 530nm and emission at 590nm using the CytoFluor. This yields the growth stimulation/inhibition data.

On day 5, the IL6 ELISA is performed by coating a 96 well plate with 50-100 ul/well of Anti-Human IL6 Monoclonal antibody diluted in PBS, pH 7.4, incubate ON at room temperature.

On day 6, empty the plates into the sink and blot on paper towels. Prepare Assay Buffer containing PBS with 4% BSA. Block the plates with 200 µl/well of Pierce Super Block blocking buffer in PBS for 1-2 hr and then wash plates with wash buffer (PBS, 0.05% Tween-20). Blot plates on paper towels. Then add 50 µl/well of diluted Anti-Human IL-6 Monoclonal, Biotin-labeled antibody at 0.50 mg/ml. Make dilutions of IL-6 stock in media (30, 10, 3, 1, 0.3, 0 ng/ml). Add duplicate samples to top row of plate. Cover the plates and incubate for 2 hours at RT on shaker.

Plates are washed with wash buffer and blotted on paper towels. Dilute EU-labeled Streptavidin 1:1000 in Assay buffer, and add 100 µl/well. Cover the plate and incubate 1 h at RT. Plates are again washed with wash buffer and blotted on paper towels.

Add 100 µl/well of Enhancement Solution. Shake for 5 minutes. Read the plate on the Wallac DELFIA Fluorometer. Readings from triplicate samples in each assay were

Additionally, the albumin fusion proteins of the invention and polynucleotides encoding albumin fusion proteins of the invention, may also be employed to inhibit the proliferation and differentiation of hematopoietic cells and therefore may be employed to protect bone marrow stem cells from chemotherapeutic agents during chemotherapy. This antiproliferative effect may allow administration of higher doses of chemotherapeutic agents and, therefore, more effective chemotherapeutic treatment.

Moreover, fusion proteins of the invention and polynucleotides encoding albumin fusion proteins of the invention may also be useful for the treatment and diagnosis of hematopoietic related disorders such as, anemia, pancytopenia, leukopenia, thrombocytopenia or leukemia, since stromal cells are important in the production of cells of hematopoietic lineages. The uses include bone marrow cell ex-vivo culture, bone marrow transplantation, bone marrow reconstitution, radiotherapy or chemotherapy of neoplasia.

Example 39: Human Dermal Fibroblast and Aortic Smooth Muscle Cell Proliferation

An albumin fusion protein of the invention is added to cultures of normal human dermal fibroblasts (NHDF) and human aortic smooth muscle cells (AoSMC) and two co-assays are performed with each sample. The first assay examines the effect of the fusion protein on the proliferation of normal human dermal fibroblasts (NHDF) or aortic smooth muscle cells (AoSMC). Aberrant growth of fibroblasts or smooth muscle cells is a part of several pathological processes, including fibrosis, and restenosis. The second assay examines IL6 production by both NHDF and SMC. IL6 production is an indication of functional activation. Activated cells will have increased production of a number of cytokines and other factors, which can result in a proinflammatory or immunomodulatory outcome. Assays are run with and without co-TNFa stimulation, in order to check for costimulatory or inhibitory activity.

Briefly, on day 1, 96-well black plates are set up with 1000 cells/well (NHDF) or 2000 cells/well (AoSMC) in 100 μl culture media. NHDF culture media contains: Clonetics FB basal media, 1mg/ml hFGF, 5mg/ml insulin, 50mg/ml gentamycin, 2%FBS, while AoSMC culture media contains Clonetics SM basal media, 0.5 μg/ml hEGF, 5mg/ml insulin, 1μg/ml hFGF, 50mg/ml gentamycin, 50 μg/ml Amphotericin B, 5%FBS.

to fn is mediated by the $\alpha_5.\beta_1$ and $\alpha_4.\beta_1$ integrin receptors, which are expressed by human and mouse hematopoietic stem cells. The factor(s) which integrate with the ECM environment and are responsible for stimulating stem cell self-renewal havea not yet been identified. Discovery of such factors should be of great interest in gene therapy and bone marrow transplant applications

Briefly, polystyrene, non tissue culture treated, 96-well plates are coated with fn fragment at a coating concentration of 0.2 µg/ cm^2. Mouse bone marrow cells are plated (1,000 cells/well) in 0.2 ml of serum-free medium. Cells cultured in the presence of IL-3 (5 ng/ml) + SCF (50 ng/ml) would serve as the positive control, conditions under which little self-renewal but pronounced differentiation of the stem cells is to be expected. Albumin fusion proteins of the invention are tested with appropriate negative controls in the presence and absence of SCF(5.0 ng/ml), where volume of the administed composition containing the albumin fusion protein of the invention represents 10% of the total assay volume. The plated cells are then allowed to grow by incubating in a low oxygen environment (5% CO_2, 7% O_2, and 88% N_2) tissue culture incubator for 7 days. The number of proliferating cells within the wells is then quantitated by measuring thymidine incorporation into cellular DNA. Verification of the positive hits in the assay will require phenotypic characterization of the cells, which can be accomplished by scaling up of the culture system and using appropriate antibody reagents against cell surface antigens and FACScan.

One skilled in the art could easily modify the exemplified studies to test the activity of albumin fusion proteins and polynucleotides of the invention (e.g., gene therapy).

If a particular fusion protein of the present invention is found to be a stimulator of hematopoietic progenitors, the fusion protein and polynucleotides corresponding to the fusion protein may be useful for example, in the diagnosis and treatment of disorders affecting the immune system and hematopoiesis. Representative uses are described in the "Immune Activity" and "Infectious Disease" sections above, and elsewhere herein. The fusion protein may also be useful in the expansion of stem cells and committed progenitors of various blood lineages, and in the differentiation and/or proliferation of various cell types.

final total volume of 100 μl. The plates are then placed in a 37°C/5% CO_2 incubator for five days.

Eighteen hours before the assay is harvested, 0.5 μCi/well of [3H] Thymidine is added in a 10 μl volume to each well to determine the proliferation rate. The experiment is terminated by harvesting the cells from each 96-well plate to a filtermat using the Tomtec Harvester 96. After harvesting, the filtermats are dried, trimmed and placed into OmniFilter assemblies consisting of one OmniFilter plate and one OmniFilter Tray. 60 μl Microscint is added to each well and the plate sealed with TopSeal-A press-on sealing film A bar code 15 sticker is affixed to the first plate for counting. The sealed plates are then loaded and the level of radioactivity determined via the Packard Top Count and the printed data collected for analysis. The level of radioactivity reflects the amount of cell proliferation.

The studies described in this example test the activity of a given fusion protein to stimulate bone marrow CD34+ cell proliferation. One skilled in the art could easily modify the exemplified studies to test the activity of fusion porteins and polynucleotides of the invention (e.g., gene therapy) as well as agonists and antagonists thereof. The ability of an albumin fusion protein of the invention to stimulate the proliferation of bone marrow CD34+ cells indicates that the albumin fusion protein and/or polynucleotides corresponding to the fusion protein are useful for the diagnosis and treatment of disorders affecting the immune system and hematopoiesis. Representative uses are described in the "Immune Activity" and "Infectious Disease" sections above, and elsewhere herein.

Example 38: Assay for Extracellular Matrix Enhanced Cell Response (EMECR)

The objective of the Extracellular Matrix Enhanced Cell Response (EMECR) assay is to evaluate the ability of fusion proteins of the invention to act on hematopoietic stem cells in the context of the extracellular matrix (ECM) induced signal.

Cells respond to the regulatory factors in the context of signal(s) received from the surrounding microenvironment. For example, fibroblasts, and endothelial and epithelial stem cells fail to replicate in the absence of signals from the ECM. Hematopoietic stem cells can undergo self-renewal in the bone marrow, but not in *in vitro* suspension culture. The ability of stem cells to undergo self-renewal *in vitro* is dependent upon their interaction with the stromal cells and the ECM protein fibronectin (fn). Adhesion of cells

Example 37: Assay for the Stimulation of Bone Marrow CD34+ Cell Proliferation

This assay is based on the ability of human CD34+ to proliferate in the presence of hematopoietic growth factors and evaluates the ability of fusion proteins of the inventon to stimulate proliferation of CD34+ cells.

It has been previously shown that most mature precursors will respond to only a single signal. More immature precursors require at least two signals to respond. Therefore, to test the effect of fusion proteins of the invention on hematopoietic activity of a wide range of progenitor cells, the assay contains a given fusion protein of the invention in the presence or absence of hematopoietic growth factors. Isolated cells are cultured for 5 days in the presence of Stem Cell Factor (SCF) in combination with tested sample. SCF alone has a very limited effect on the proliferation of bone marrow (BM) cells, acting in such conditions only as a "survival" factor. However, combined with any factor exhibiting stimulatory effect on these cells (e.g., IL-3), SCF will cause a synergistic effect. Therefore, if the tested fusion protein has a stimulatory effect on hematopoietic progenitors, such activity can be easily detected. Since normal BM cells have a low level of cycling cells, it is likely that any inhibitory effect of a given fusion protein might not be detected. Accordingly, assays for an inhibitory effect on progenitors is preferably tested in cells that are first subjected to *in vitro* stimulation with SCF+IL+3, and then contacted with the compound that is being evaluated for inhibition of such induced proliferation.

Briefly, CD34+ cells are isolated using methods known in the art. The cells are thawed and resuspended in medium (QBSF 60 serum-free medium with 1% L-glutamine (500ml) Quality Biological, Inc., Gaithersburg, MD Cat# 160-204-101). After several gentle centrifugation steps at 200 x g, cells are allowed to rest for one hour. The cell count is adjusted to 2.5 x 10^5 cells/ml. During this time, 100 μl of sterile water is added to the peripheral wells of a 96-well plate. The cytokines that can be tested with an albumin fusion protein of the invention in this assay is rhSCF (R&D Systems, Minneapolis, MN, Cat# 255-SC) at 50 ng/ml alone and in combination with rhSCF and rhIL-3 (R&D Systems, Minneapolis, MN, Cat# 203-ML) at 30 ng/ml. After one hour, 10 μl of prepared cytokines, varying concentrations of an albumin fusion protein of the invention, and 20 μl of diluted cells are added to the media which is already present in the wells to allow for a

Example 36: Assay Identifying Phosphorylation Activity

As a potential alternative and/or complement to the assay of protein tyrosine kinase activity described in Example 35, an assay which detects activation (phosphorylation) of major intracellular signal transduction intermediates can also be used. For example, as described below one particular assay can detect tyrosine phosphorylation of the Erk-1 and Erk-2 kinases. However, phosphorylation of other molecules, such as Raf, JNK, p38 MAP, Map kinase kinase (MEK), MEK kinase, Src, Muscle specific kinase (MuSK), IRAK, Tec, and Janus, as well as any other phosphoserine, phosphotyrosine, or phosphothreonine molecule, can be detected by substituting these molecules for Erk-1 or Erk-2 in the following assay.

Specifically, assay plates are made by coating the wells of a 96-well ELISA plate with 0.1ml of protein G (1ug/ml) for 2 hr at room temp, (RT). The plates are then rinsed with PBS and blocked with 3% BSA/PBS for 1 hr at RT. The protein G plates are then treated with 2 commercial monoclonal antibodies (100ng/well) against Erk-1 and Erk-2 (1 hr at RT) (Santa Cruz Biotechnology). (To detect other molecules, this step can easily be modified by substituting a monoclonal antibody detecting any of the above described molecules.) After 3-5 rinses with PBS, the plates are stored at 4 degree C until use.

A431 cells are seeded at 20,000/well in a 96-well Loprodyne filterplate and cultured overnight in growth medium. The cells are then starved for 48 hr in basal medium (DMEM) and then treated with EGF (6ng/well) or varying concentrations of the fusion protein of the invention for 5-20 minutes. The cells are then solubilized and extracts filtered directly into the assay plate.

After incubation with the extract for 1 hr at RT, the wells are again rinsed. As a positive control, a commercial preparation of MAP kinase (10ng/well) is used in place of A431 extract. Plates are then treated with a commercial polyclonal (rabbit) antibody (1ug/ml) which specifically recognizes the phosphorylated epitope of the Erk-1 and Erk-2 kinases (1 hr at RT). This antibody is biotinylated by standard procedures. The bound polyclonal antibody is then quantitated by successive incubations with Europium-streptavidin and Europium fluorescence enhancing reagent in the Wallac DELFIA instrument (time-resolved fluorescence). An increased fluorescent signal over background indicates a phosphorylation by the fusion protein of the present invention or a molecule induced by an albumin fusion protein of the present invention.